

**PAGES MISSING IN
THE BOOK**

OSMANIA UNIVERSITY LIBRARY

Call No. 339 W14E . Accession No. 14464

Author Wailes, W.C.

Title Economics of Consumption.

This book should be returned on or before the date last marked below

7 SEP 1955

ECONOMICS OF CONSUMPTION

ECONOMICS OF CONSUMPTION

BY

WARREN C. ~~WALTE~~, PH. D.
Associate Professor of Agricultural Economics
University of Minnesota

FIRST EDITION
SECOND IMPRESSION

McGRAW-HILL BOOK COMPANY, INC.
NEW YORK: 370 SEVENTH AVENUE
LONDON: 6 & 8 BOUVERIE ST., E. C. 4
1928

COPYRIGHT, 1928, BY THE
, MCGRAW-HILL BOOK COMPANY, INC.

PRINTED IN THE UNITED STATES OF AMERICA

THE MAPLE PRESS COMPANY, YORK, PA.

TO MY WIFE

PREFACE

The economics of consumption has had little systematic development at the hands of economists. The analysis that deals with consumption is fragmentary and so scattered through the literature that one not well acquainted with that literature would have difficulty in finding discussions of the various phases of the subject. An attempt is made here to gather this material and present it as a related whole. No adequate discussions of certain phases of the problem have been found, and it has been necessary to supply them, and to modify certain previous discussions in the light of subsequent events.

This book grew out of a course which has been given to the Home Economics students at Minnesota for a number of years. It presupposes some acquaintance with the principles of Economics. At Minnesota, a 5-hour course in the Principles of Economics is a prerequisite. The course builds on this foundation, and endeavors to give a grasp of the economic principles underlying the problems of consumption as they arise in the existing order. The household economist is interested in these principles in order that she may secure a wiser administration of income in filling the wants of her family. The market economist is interested in these principles in order that he may modify the consumption of others and thus increase the sales of his own product. All of us, since we are all consumers, are concerned with the limitations and modifications of our consumption which the economic order imposes. Moreover, the problems of consumption increase rather than decrease as the volume of production and the variety of goods are increased.

My debts to my predecessors are large. I have endeavored to give credit for ideas where it was due, although some may have

escaped notice. All who have been at Minnesota during the past 10 years have been deeply influenced by Professors John D. Black and Frederic B. Garver. Their influence on this work has been material. I have also received suggestions and criticisms from many of my colleagues. The shortcomings are, of course, my sole responsibility.

WARREN C. WAITE

UNIVERSITY OF MINNESOTA.

June, 1928.

CONTENTS

PREFACE	PAGE
	vii
CHAPTER I	
THE NATURE OF THE CONSUMPTION PROBLEM	1
1. Some Problems of Consumption.	
2. The Economics of Consumption.	
3. The Difficulties of Consumption.	
PART I	
THE SYSTEM OF PRICES AND THE CONSUMER	
CHAPTER II	
THE ORGANIZATION OF THE ECONOMIC ORDER	11
1. The Nature of the Existing Economic Order.	
2. Criticism of the Operation of the Order.	
3. Criticism of the Philosophy of the Order.	
CHAPTER III	
THE INCOMES OF CONSUMERS	21
1. The Concept of Income.	
2. Variations in the Significance of Income.	
3. Dangers of Comparing Money Incomes.	
4. The Inequalities of Income; Causes and Results.	
CHAPTER IV	
CHANGES IN THE GENERAL LEVEL OF PRICES	35
1. Measurement of General Price Changes.	
2. Types of Price Movements.	
3. The Business Cycle and the Consumer.	
CHAPTER V	
THE COST OF LIVING AND ITS EFFECT UPON REAL INCOME.	50
1. Measurement of the Cost of Living.	
2. Variations in the Cost of Groups of Goods.	
3. Attempts to Measure Real Income.	

CHAPTER VI

	PAGE
PROTECTION OF THE CONSUMER FROM EXPLOITATION	62
1. Protection of the Consumer from Unfair Prices.	
2. Protection of the Consumer from Inferior Quality.	

PART II

THE CHOICE OF GOODS

CHAPTER VII

THE CHOICE OF GOODS	79
1. The Psychological Basis of the Analysis.	
2. The Effect of Price on Choice.	
3. Some Special Problems.	

CHAPTER VIII

THE ELASTICITY OF DEMAND FOR COMMODITIES	90
1. Differences in Elasticity and Their Importance.	
2. Determination of the Elasticity of Demand for Particular Commodities.	

CHAPTER IX

STUDIES OF FAMILY EXPENDITURES	102
1. Some Early Studies.	
2. Studies in the United States.	
3. Trends of Expenditures.	
4. Changes within the Budget.	
5. Expenditures and Size of Family.	

CHAPTER X

VARIATIONS IN CONSUMPTION.	116
1. Variations between Individuals and Groups.	
2. Variations between Places.	
3. Variations between Times.	
4. Changes in Per Capita Consumption.	

CHAPTER XI

MANIPULATION OF DEMAND	132
1. Expenditures for Demand Manipulation.	
2. Is Demand Manipulation Beneficial to the Consumer?	
3. The Effectiveness of Sales Effort.	

CHAPTER XII

THE CONSUMER'S PURCHASING HABITS.	141
1. Retailing and Its Costs.	

CONTENTS

XI

PAGE

2. The Increasing Effort Spent in Distribution.
3. The Possibilities of Reducing Retail Costs.

PART III

ADMINISTRATION OF THE INDIVIDUAL INCOME

CHAPTER XIII

THE CONTROL OF INDIVIDUAL EXPENDITURES . . .	153
1. The Lack of Objective Tests of Proper Expenditures.	
2. The Budget.	
3. Records and Accounts.	
4. Checking Expenditures.	

CHAPTER XIV

EMPIRICAL TESTS OF CORRECT EXPENDITURE . . .	160
1. Suggested Budgets.	
2. Food.	
3. Shelter.	
4. Clothing.	
5. Operating Expenses.	
6. Personal and Advancement Expenses.	

CHAPTER XV

INSURANCE AND INVESTMENT . . .	173
1. The General Plan.	
2. Insurance.	
3. Savings.	
4. The Purchase of a Home.	
5. Investment.	

CHAPTER XVI

THE PROBLEM OF PURCHASING . . .	196
1. The Amount of Purchasing by Women.	
2. The Problem of Where to Buy.	
3. The Problem of When to Buy.	
4. The Problem of How Much to Buy.	
5. Resale Price Maintenance.	
6. Instalment Purchasing.	
7. Buying Superstitions.	

PART IV

SOCIAL PROBLEMS OF CONSUMPTION

CHAPTER XVII

THE POPULATION PROBLEM	213
1. The Factors of the Problem.	

	PAGE
2. The Rate of Increase of the People.	
3. The Rate of Increase of Production.	
4. Changes in Consuming Habits.	

CHAPTER XVIII

NATIONAL PROBLEMS OF CONSUMPTION	230
1. The Most Effective Level of Consumption for a Nation.	
2. Modification of Consumption by Government Expenditure.	
3. Sumptuary Laws.	
4. Modification by Taxation.	

CHAPTER XIX

CONSUMERS' COOPERATION	247
1. Nature of Consumers' Cooperation.	
2. The Consumers' Cooperative Movement.	
3. The Prospects of Consumers' Cooperation.	

CHAPTER XX

CRITIQUE OF CONSUMPTION	254
INDEX	259

ECONOMICS OF CONSUMPTION

CHAPTER I

THE NATURE OF THE CONSUMPTION PROBLEM

There is an economy of consumption as important from the standpoint of human welfare as the economy of production. A large portion of the waste of our economic order arises, even after goods have been produced, from poorly arranged consumption, which results not only in a loss of satisfaction and enjoyment on the part of those who consume poorly, but may also result in a misuse of productive resources as well. Acceptance of the thesis that the nature of man is, in part, at least, a result of his environment gives a vital importance to consumption. Poorly ordered consumption will result in persons less vigorous and intelligent than well-ordered consumption. Moreover, these results will be cumulative, for better consumption will not only result in better individuals, but these individuals, by virtue of their greater strength and foresight, will be able to provide better environment for their children, and these in turn will be better and stronger individuals. It is just as important, in consequence, for society to consider its consuming habits as to take stock of its productive equipment.

1. Some Problems of Consumption.—Consumption is not entirely an individual matter, but has important social aspects as well. Much of what we consume is the result of the consumption of others. We often imitate others because we do not really know what to consume, or because we wish to avoid being conspicuous through the omission of certain articles in our consumption. Moreover, if our incomes are small, we have our choices limited largely

to commodities which can be produced in considerable quantities because many want them. We also, in a small measure at least, contribute to the forces that determine the sorts of things upon which others work, and their conditions of employment. In so far as we spend our money on things which are produced under conditions that are degrading and harmful to the workers, we have added something to the misery of mankind, and in so far as we spend our money for things that uplift and strengthen the character of the workers, we have added something to the general welfare of mankind. The extent of our responsibility in these matters is an ethical problem, and our answer will depend upon the particular ethical theory which we hold. We all admit that in choosing a course of action it is reasonable to make some allowance for its probable effect upon others, as well as of its effect upon ourselves, but how important these two sets of interests are is largely a matter of personal opinion. The effects of consumption, then, are not confined within the narrow limits of our own domestic establishments, but affect many outside these boundries as well.¹ ✓

Consumption is a very complicated process, and covers a wide range of activities. It is our mode of life itself. As such, it is a problem in human behavior and in human motives, and might seem more properly the field of the psychologist than of the economist. The economist, however, deals with a certain portion of the field of consumption: only those aspects of consumption which are related to price. There is nothing peculiar to economics in this method of approach. Precisely the same thing is done by sociology, political science, physiology, and other studies dealing with human beings. The economist does not suppose that these economic activities can be entirely separated from the rest of man's activities. The economist deals with man as he finds him, but concerns himself principally with this special sort of activity. The con-

¹ Cf. PIGOU, A. C., "Essays in Applied Economics," the "Essay on Expenditure of Private Income."

clusions of the psychologist are accepted in all problems dealing with the relation of economic activities to other activities, and the psychological basis of these economic activities, and the economist does not attempt to change them. There is, however, a great deal of the economics of consumption that has no relation to any theory of psychology.

2. The Economics of Consumption.—We may define economics, for our purposes, as the science which deals with the administration of resources in the satisfaction of human wants, in so far as this administration involves considerations of price or cost. Not all administration of resources is, of course, economic; much of it is technical and not a matter for economists at all. The determination of the calorie content of certain foods, the setting of proper nutritional standards, and the proper preparation of food are technical matters, and are outside the field of economics. The calculation of the cheapest sources of certain necessary food elements, and the variations in the prices of these sources are, however, within the field of economics.

Consumption may be studied in one of three different ways, either in terms of prices, or of goods and services, or in psychic states. We may, for example, examine and compare the expenditures or receipts of people, and deal with these as matters of dollars and cents. These statements can be quite definitely made, since the monetary unit is the common means of expression used for all of them. Unfortunately, these statements will often fail to tell us what we wish to know, and must be supplemented with additional data. We may, on the other hand, deal with consumption in terms of goods and services. Here, however, we find no common unit to which we can reduce the many things which people consume, and since each person consumes a somewhat different set of commodities from anyone else, and even different commodities at different times, our comparisons cease to be accurate. The best that can be done is to take certain major items

of consumption, get arbitrary measures for these, and make our comparisons on this basis. Thus we might adopt cubic feet of air space per individual, and square feet of window space per individual as a measure of the adequacy of housing. Finally, consumption may be studied in terms of psychic states. Here we have no measures at all, and our statements and comparisons can only be made in the most general terms and with carefully stated assumptions.

Economics deals properly with only the first of these methods of approach. Unfortunately, a study of consumption considered from the standpoint of price alone cannot tell us all we wish to know. Considerations of human welfare cannot be avoided in a comprehensive study of consumption, and, in consequence, the strictly economic study is expanded to include portions of the problems involved in the other ways of considering consumption. These are included always, however, with a view of explaining or clarifying certain aspects of the monetary relations of the problem. Thus, it is essential to make clear that a given quantity of money expended in different times or places usually purchases a different quantity of goods and services. It is essential to discover these differences, to measure them, and to determine the causes of the differences. Similarly, it is important to show that a given quantity of money does not correspond to a certain satisfaction, and that people who consume the same quantity of goods fail to gain the same enjoyment from life. It is also important to show that there is no single exact way in which money can be spent by all consumers with each deriving the same enjoyment from those expenditures. What may be a proper expenditure of money for one person may be quite improper for another when tested by the enjoyment obtained from that expenditure.

The economics of consumption, from a social point of view, is concerned with three major problems. The first of these is an analysis of the status of the consumer in the existing economic order. The present order has important

relations to consumption. The goods which are produced depend upon the desires of certain consumers. At the same time, the order limits and conditions consumption in many ways. The quantities of goods which a person may command are limited by his income. His choices are materially influenced by advertising and salesmen. The range of choices depends, in a large measure, upon what others consume. His choices and activities are modified on every side by the economic order in which he finds himself. Secondly, there is the problem of the manner in which goods are chosen, and the economic results of these choices. The explanation of the choice of goods must rest, in a major part, upon psychology. The economist deals primarily with the modification of these choices by prices, and the effect of changes in choices upon prices. Finally, there is the problem of the relation of human welfare to wealth. This is frequently a matter of consumption in its desirable and undesirable modes. There are also certain problems of social control and social betterment which are primarily problems of consumption. The principal economic problem in consumption, from an individual point of view, is the proper administration of the individual income. The economist does not have a great deal to say on this problem as a great portion of the problem is technical in nature.

3. The Difficulties of Consumption.—When we compare production and consumption in an historical way, important differences appear. The problem of the individual as a consumer is becoming more complex. The kinds and qualities of goods offered on the market are constantly increasing. As a producer, on the contrary, his task is becoming simpler; instead of producing a range of products, he is becoming usually a specialist in the production of a small part of a single article. His tasks as a producer have become fewer and specialized; his activities as a consumer many and complex.

The great development of technique which has taken place in production during the last century and a half has

not been found in consumption. There are two principal reasons for this backwardness of consumption; first, the very nature of the consumption problem precludes the use of exact measures for testing the results of individual expenditures; and secondly, the home, which is the usual unit in consumption, is too small to function well economically.¹ The business man tests the results of particular operations by their effect on the profits of the business. Those actions or policies are deemed effective which result in larger profits. No such exact measure is as yet available for the household. The home is, of course, operated for the well-being of the family, but well-being is such a vague thing that results can be judged only in the most general way. The small size of the household prevents the economical operations found in industry by largely preventing the use of labor-saving devices, and in causing purchasing to be less scientifically done. The usual home is much too small to utilize labor-saving devices effectively. The machine is used only a small portion of its possible working time, and it must either perform a very essential task or be very cheap to warrant its installation. In industry, a machine will often be used 12 out of each 24 hours, sometimes even more. In the household, a machine may be idle 99 out of 100 hours. Industrial purchasing has been largely specialized in the hands of expert buyers. Purchases are generally in large amounts, and, in consequence, close attention to prices, and elaborate examinations of qualities are warranted. Household purchasing falls largely upon the housewife who has many other complex problems and duties with which to share her time. The two problems are essentially different. No purchasing agent in business is called upon to buy the wide variety of products that the ordinary housewife is called upon to purchase, and, in consequence, he can possess a much more exact knowledge of the methods of determining quality and the markets than are available to the housewife. At best, she

¹ Cf. MITCHELL, W. C., "The Backward Art of Spending Money," *American Economic Review*, Vol. II, p. 269.

can have only a general knowledge of prices and qualities. Business throws no exhaustive labor upon those who are called upon to make its decisions; the housewife, on the contrary, is engaged in manual labor a large portion of the day.

Problem

Plot on a piece of graph paper the total population of the United States by census periods from 1850 to 1920 and the number of families. These are given in Table I of Vol. II, "Population" of the U. S. Census of 1920. Also plot from Table 14, Vol. VIII, "Manufactures," of the U. S. Census of 1920 the number of establishments and the number of wage earners.

Write a brief discussion of the meaning of these data

PART I
THE SYSTEM OF PRICES AND THE
CONSUMER

CHAPTER II

THE ORGANIZATION OF THE ECONOMIC ORDER

The particular task of any economic order is to secure the best possible adjustment between the wants of a society and the means of supplying those wants. Certain wants can be completely satisfied for all the members of society, as the means of satisfying those wants are supplied by nature gratuitously in sufficient quantities to provide each person with all that he desires. Thus, there is, except in certain special cases, sufficient air, water, and such things so that each may possess all he wishes. There are a great many wants, however, that cannot be completely satisfied, since the means of satisfying these wants are limited. The economic order administers this latter situation. This administration involves two things; first, the wants of society and its various members must be rated upon some sort of a basis, and the goods which are available for the satisfaction of wants must be distributed among these so that only those which have been judged to be more important are satisfied; secondly, the order must distribute the means of production among their various uses in such a manner that the goods which are necessary for the satisfaction of the selected wants will be most effectively supplied. This means that the production of goods should be carried on by the best technical methods. Where a want can be satisfied in several ways the order should secure its satisfaction by the way which most effectively uses resources. The means of production are limited because of physical limitations in nature, and because men do not like to work or to wait. The order must, therefore, determine who will work and who will wait, and how much work and waiting each must supply.

1. **The Nature of the Existing Economic Order.**—The existing economic order provides for the direction of these activities through the medium of prices. Prices determine what is to be produced, who is to consume particular products, and when these products are to be used. The process takes place spontaneously; that is, the formation of these prices and the effects of particular prices take place within the order itself, and without direction by some outside authority such as the government. The order, in consequence, is often said to be automatically regulated. Persons are left free to decide upon the relative importance of their own wants, and to secure the satisfaction of these wants so far as their income will permit. Business men are free to provide the kinds of goods and services which they choose. Laborers and owners of productive resources are free to sell their services or not to sell them, as they desire. We are all dependent upon others in this general process. Most people produce only a small portion of the goods which they consume, and a great many consume only goods which are produced by others. Goods and services are sold in the market for money which, in turn, gives command over goods and services produced by others.

The motive which drives people to this cooperation is almost entirely selfish. We do things because it is to our individual interest to do them. Those who have goods and services to sell exact the highest prices they can. Those who buy purchase from the cheapest source they know. The persons with goods or services to sell, however, are somewhat restricted in the amount which they can charge for them, since others have similar things to sell. No one is obliged to buy from anyone else, and, in consequence, the prices of one seller must be about those of other sellers or else the goods cannot be sold. This is the result of what we call *competition*, and it is only where competition is effective that it is safe to leave the provision of essential economic services on this purely voluntary basis. The interest of a group producing a particular product is to exploit the consumers of that product. Competition,

however, prevents this. The pitting of each against the others in an effort to gain trade insures the supplying of these articles by those who are willing to furnish them at the lowest price.

The prospective prices of products determine which will be produced. The order leaves men free to produce what they wish, or to work for whomever they choose. They may be expected, at least within the limits of their knowledge, to select their most profitable alternative. Those goods will be produced which promise the producers the largest profits. The laborer will work where he can get the largest wage. There is a tendency, as a result, for our productive resources to be distributed among all their possible uses in those uses which will yield them the most. This cannot be perfect since society is a dynamic, changing thing, but as rapidly as errors of estimate are discovered, an attempt is made to correct them. The force which leads to this distribution of resources is again that of private interest. We do the things promising us the largest personal gain. When there is an increase in the price of a particular product, and as a result business becomes more profitable in a particular line, there is an expansion of production by the producers in that line, and newcomers endeavor to crowd in. When the price of a particular product falls, some of the producers turn to the production of other things. Prices indicate to the producers the demands of consumers for particular products and changes in those demands. If consumers desire more of a product and are willing to pay a higher price for it, then the price rises in the market. If, on the contrary, consumers cease to care for an article, then it cannot be sold in such large quantities at the former price. The order provides, in this manner, for the production of goods which the consumers desire and for which they are willing to pay a sufficient price to induce someone to produce. The order also provides for changes in the quantities of the goods produced in accordance with changes in the desires of consumers for goods.

Price also regulates the consumption of goods which have been produced, by distributing these goods among the various persons who compose society, and over periods of time. The cooperative nature of our society means that most of the goods produced must be sold to others, and competition, that all similar goods must be sold at about the same price in the market. Prices in the market must, in consequence, fall low enough to clear it of goods, and all those who are willing to pay the price may obtain them. If the quantity in the market is small, then prices may be high, and many will not buy, but the goods still fall into the hands of those who are willing to pay this high price. It is in this manner that society determines the relative importance of different wants. Through its system of rewards, society automatically weighs each individual and enables him to collect approximately the full economic value of his services. He is then able to command for consumption precisely the same amount of value that his services have been worth to others. If one contributes more than another in the way of economic goods, then society judges by this process that his sum of wants is of more importance than those of the less productive contributor. Within the limits of this income he may rate and satisfy such wants as he wishes. Those who contribute a great deal are able to consume much. If society has provided all with equal opportunities, then each is said to receive all that his abilities and exertions are worth.

2. Criticism of the Operation of the Order.—The existing economic order may be criticised on two bases. First, that it fails to function throughout in keeping with the philosophy which we have outlined as forming the fundamental basis of the order. For example, it may be argued that the rewards for efforts are not perfectly adjusted, and that in many places competition breaks down. Secondly, the order may be criticised on the grounds that the general philosophy underlying its operation is faulty. For example, the rating of wants in terms of the amounts of contributions allows the irrelevant wants of the rich to be

satisfied at the expense of vital wants of the poor, and again that the profit motive provides a biased and unsafe force for the general development of society, since it sacrifices the interests of the group for those of the individual. While many of these criticisms carry considerable force, no one of intelligence proposes the complete and immediate overthrow of the existing order. A violent break would be created in doing so, and great suffering would follow, not only to ourselves but for those who will follow us for several generations. We are not sure that we shall need or even have this sort of an order a thousand years from now, but we are sure that any violent change would result in a serious loss. It is worth while, however, to examine the system in order to determine its weaknesses and their possibility of remedy.

We look for protection from the predatory interests of individuals through competition. In many cases, however, this protection has broken down. There are many fields of production that are clearly monopolistic. The railroads, public utilities, and a large and growing mass of industries supplying public services are already non-competitive, their monopolistic nature is recognized and society provides safeguards for the consumers by the legal establishment of reasonable rates and minimum qualities of service. In many other industries there are "trusts," or less conspicuous organizations, such as trade associations, or even codes of ethics which are designed to lessen the dangers of competition, and to make industry safe for the business man. In the labor field there are some strong organizations which occasionally have been responsible for stoppages in certain vital industries because of disputes. Competition has not disappeared entirely, but it has ceased in many cases to provide the safeguards needed by society, and in these cases there is occasion for control and regulation in the interests of society as a whole. The extent to which the economic order is dependent upon various sorts of price regulation is indicated in a rough way by the following table:

TABLE I.—RELATIVE AMOUNT OF ECONOMIC OPERATION UNDER DIFFERENT FORMS OF PRICE GUIDANCE

	Capital, billions of dollars	Annual produc- tion, billions of dollars	Per cent of all U. S. capital	Per cent of total annual produc- tion
Freely competitive, or fairly free:				
Farming, construction, manufac- turing, except otherwise speci- fied	112	30	56	50
Some element of monopoly:				
Iron, steel, tobacco, petroleum..	14	4	7	7
State regulation of service and some of the rates:				
Bank and insurance ...	9	3	5	5
State control of service and rates:				
Railroads and public utilities	41	5	21	8
State production and distribution:				
Post office, schools, information, etc.....	20	5	10	6
Miscellaneous:				
Distribution, etc., mainly com- petitive		13		22
Total for the United States	200	60	100	100

Compiled by M. J. B. Ezekiel from the "Statistical Abstract" of the U. S. Department of Commerce. "Income in the United States" National Bureau of Economic Research; and COOKE, "Public Utility Regulation." Probable errors are at least 5 or 10 per cent of each value shown.

It has long been recognized that there are certain forms of activity which cannot be left to individual initiative, for the reason that while they are collectively important they offer no particular incentive for an individual to perform them. Provision for the national defense, police protection, or even the education of the great mass of our citizens would not be provided except through governmental action. It is necessary, for similar reasons, to care for our defectives, and to furnish numerous services such as mail distribution, highways, navigation facilities, and so on. There are a great many things, however, in which society has not, as yet, recognized a direct responsibility.

The business machine, for example, leaves a constant stream of human wrecks by the wayside for whom no one seems responsible. They are the inefficient, or improvident, or the victims of the improvidence of others, or they have been unfortunate through sickness or accident, or may have simply been ground down by the monotony of machine tending. There is, likewise, no individual responsibility for the business cycle, yet it periodically paralyzes industry, and entails heavy social costs. Men remain idle who wish to work, and the product of society is much less than it might be.

Competition also fails to provide adequate protection in certain cases where the consumers or laborers are ignorant. It may, in fact, act to their detriment. Where consumers cannot tell the quality of goods, there is a constant temptation to the manufacturer to adulterate or cut the quality; indeed, competition forces him to do this very thing or to be undersold by his competitors. A similar situation arises in the case of the laborer who is offering his services. Guards and safety devices are expensive, and the manufacturer who incurs extra costs for them is at a disadvantage. We make some small attempt at setting things to rights in both cases but there still remain vast quantities of shoddy goods and injurious lines of work that turn men out at middle age with their productive powers seriously reduced.

3. Criticism of the Philosophy of the Order.—It is probable that the order does not result in the rating of men in the best possible way for society. It is possible for each society to select and reward those whom it deems of most value to it. It may be urged, however, that our system of rewards concerns itself principally with temporary contributions, and leaves only slightly rewarded those who make the most lasting contributions to our advancement. Thus, the great contributions to science or even to the arts are likely to receive only small rewards. Moreover, it is quite probable that the competitive system fails in many cases to deal out the exact rewards needed to secure

the supplies of the factors of production which are necessary for the goods worth making. Those who possess exceptional ability are probably paid more than is necessary to secure their services, since such men customarily retire early, and rear their sons to a life of idleness. At the same time, those of small ability are often so poorly paid that their efficiency suffers as a result. The basis of the justice in this rating lies in the assumption of an equality of opportunity. The individual alone is responsible for his life. Given a fair start in life, competition insures him equal chance with others, and if he fails to make a success, the fault is his alone. Opportunities, however, are far from equal. Those of great genius rise over every obstacle, but the majority of men are mediocre, and remain in the class in which they are born. There is a scarcity of capable men at the top of each profession, since this requires the unusual coincidence of great ability and the large resources required for a lengthy period of training. There is an immense fund of high ability that is never realized upon by society because it never receives the opportunity for development at the proper time. The system results in a much poorer utilization of our human resources than is possible, and every energy should be bent toward bringing to light and utilizing these hitherto wasted resources.

Similar arguments might be advanced in the case of saving. We know neither whether there is too much saving nor whether it takes place at the proper points. It is entirely possible that the saving of the poor, if some safeguards against misfortune were provided for them, might be better spent in their development and the development of their children.

The efficiency of the present order in its administration of consumption is also open to question. It has already been suggested that the rating of men on an economic basis may give an unsound criterion of the value of their wants. The institution of inheritance enables some to consume much more than their personal contributions to the value of goods to others. A man may personally produce

nothing, yet consume much, because his ancestors produced much and acquired a property control over productive resources. Moreover, this original control may have been acquired by fraud or downright thievery from society. The method of the valuation of wants which the order sets up breaks down here. It is when we observe the extremes in the differences of income that this becomes most clear. We find the rich often indulging in whims and often actually degrading consumption, while the satisfaction of wants which are necessary for their own efficiency are denied the poor. Whatever the fundamental worth of this system of evaluation, there are grievous maladjustments. All these things are matters of grave public concern and without wise handling may easily cause the collapse of the present economic system with a loss of all the virtues which it contains.

Problems

PER CAPITA CONSUMPTION OF TOBACCO IN VARIOUS FORMS IN THE UNITED STATES, 1909-1925¹

Year	Pounds per capita used in cigars	Pounds per capita used in cigarettes	Pounds per capita used in tobacco and snuff
1909	1 47	0 27	3 82
1910	1 48	0 34	3 80
1911	1 54	0 40	3 68
1912	1 54	0 49	3 68
1913	1 64	0 58	3 49
1914	1 56	0 63	3 37
1915	1 42	0 67	3 38
1916	1 52	0 91	3 42
1917	1 60	1 29	3 44
1918	1 52	1 70	3 55
1919	1.44	1 59	2 93
1920	1 58	1 39	2 89
1921	1 32	1 46	2 65
1922	1 38	1 55	2 71
1923	1 44	1 80	2 72
1924	1 35	1 93	2 64
1925	1.29	2.13	2.57

¹ *Statistical Abstract*, 1919 and 1925

1. To what factors do you attribute the changes which have taken place in tobacco consumption?
2. What determines the number of pounds of tobacco that will be put to each use?
3. Is a continuation of these trends to be expected?

CHAPTER III

THE INCOMES OF CONSUMERS

The economic organization of society on a pecuniary basis gives great importance to the money income of the consumer, since the possession of this money income gives him power to command goods and services in the market. Individual consumers are, in fact, aware of a consumption problem largely because of the limitation of their consumption which is imposed by a lack of funds. They ordinarily think that their problem would be solved if they could, in some way, secure a sufficiently large income. The market is uninfluenced by needs or desires unless they are expressed in offers for goods in money. Each dollar, regardless of the ethical or moral situation back of its expenditure, possesses similar power in directing the productive efforts of society. The goods of society go into the hands of those who can pay for them, regardless of the real needs of the purchasers. The consumption problem cannot, in consequence, be understood without a knowledge of the distribution of incomes among the members of society.

1. The Concept of Income.—The most usual concept of income is that of *money income*.¹ It consists of the monetary receipts for a particular period of time. The money income of a family for a year is the monetary receipts from all sources received by that family during the year. It includes the salaries or earnings of the working members, the earnings from property, gifts, etc., in short, all sums, from whatever source, that became available during the period. The most striking thing about the distribution of these money incomes is their inequality. We do not possess accurate data of the money income of the people

¹ See FISHER, IRVING, "The Nature of Capital and Income," Chap. VII, for development of the income concept.

of the United States but we have some fairly reliable estimates made by the National Bureau of Economic Research. These data do not represent the money incomes of the people in the same sense in which we have used the term for they include an estimate of non-monetary income as well, especially farm and garden produce consumed by their producers, and the rental value of houses occupied by their owners. The accompanying table briefly summarizes the data from this study.

TABLE II.—DISTRIBUTION OF MONEY INCOMES IN THE UNITED STATES, 1918¹

Approximately			
152 persons or	0 004	per cent had incomes of	\$1,000,000 or over
7,285 persons or	0 02	per cent had incomes of	100,000 to 1,000,000
11,011 persons or	0 03	per cent had incomes of	50,000 to 100,000
41,119 persons or	0 11	per cent had incomes of	25,000 to 50,000
192,062 persons or	0 51	per cent had incomes of	10,000 to 25,000
587,824 persons or	1 56	per cent had incomes of	5,000 to 10,000
1,383,167 persons or	3 68	per cent had incomes of	3,000 to 5,000
3,065,024 persons or	8 17	per cent had incomes of	2,000 to 3,000
5,222,067 persons or	13 92	per cent had incomes of	1,500 to 2,000
12,428,120 persons or	33 14	per cent had incomes of	1,000 to 1,500
12,531,570 persons or	31 44	per cent had incomes of	500 to 1,000
1,827,554 persons or	4 87	per cent had incomes of	0 to 500
200,000 persons or	0 52	per cent had incomes	0 or under

¹ "Income in the United States," Vol I, National Bureau of Economic Research

These data fail to meet our particular requirements in that they are in terms of individual income receivers. The typical consumption unit is the family. It would be very desirable to have these data on a family basis, together with a knowledge of the size and composition of the families receiving particular incomes since the size and composition of the family determine, to a large extent, the adequacy of an income of a particular size. Unfortunately, we have no reliable data compiled on this basis. Data compiled for other purposes, however, throw some light on the problem. When the population is classified according to broad income groups, we find the size of the family decreasing as we progress from the low- to the high-income groups. This means that the proportion of people supported on low money incomes is even greater than these figures of the distribution of money incomes appear to indicate. When,

however, we examine a low-income group such as the families reported in the Bureau of Labor Statistics in their 1918 study,¹ we find that the larger families in the group have larger incomes than the smaller families. This is because the larger families are older groups with more of the children earning and contributing to the family income. The group as a whole, however, has relatively low incomes and large families.

Income and consumption are not the same. There is a difference between total income and consumed income, which difference consists of saving. Persons with large incomes generally spend a smaller proportion of their incomes than do those with small incomes. A man with an income twenty times that of another is not likely to spend twenty times as much in consumption, but much less, say ten times as much. Moreover, it does not follow because one person or group has a larger money income than another, that they are able to consume more in the way of goods and services. Certain goods and services may not be sold in the market, or if sold they may sell for a lower price in one place than they do in another, and, in consequence, a given money income is able to purchase more in one place than in the other. The difference appears sharply when incomes of city folk and farmers are compared. The farmer receives a great many things, such as fruits and vegetables, dairy produce, and the use of his house, which do not represent expenditures of his money income.

We may term the goods and services which a person has to consume his *real income*. The real income of people, and their consumption are very similar, since savings by individuals are generally in the form of money and not of goods. Real incomes are, in consequence, of great importance in a study of consumption. The same difficulties arise in an endeavor to measure real incomes as arise when we endeavor to study consumption on the basis of goods

¹ "Cost of Living in the United States," United States Bureau of Labor Statistics, *Bull.* 357.

and services. There is no common denominator to which this heterogeneous mass of things can be reduced. We can describe quite precisely the income of an individual, in terms of units or pounds, in short, make a complete inventory of the physical things and services which he receives or consumes but as between individuals our statements can proceed only in general terms. The best that can be done is to select certain significant items which are capable of measurement and, by weighting them arbitrarily, arrive at a general notion. Despite these limitations, comparisons of real incomes are often desirable for many purposes, particularly those dealing with consumption, since they may yield even more pertinent information than the comparison of money incomes.

The income concept may be pushed even further, and income may be thought of as a flow of satisfaction received during a stated period of time. This may be called *psychic income*. We know little or nothing regarding the psychic incomes of individuals. The psychologists have provided us with no unit for the comparisons of reactions, and, in consequence, statements regarding psychic incomes are simply guesses. We may suspect that the satisfaction which one person receives from a good is different from that of every other individual, or that psychic incomes are somewhat proportional to real incomes. Our conclusions in either case depend upon our assumptions at the outset. We have, as an additional difficulty in income comparisons, the fact that the various concepts are neither proportional nor equal. Thus, the same money income does not provide the same real income and, moreover, it is not likely to do so. Similarly, the same real incomes may yield quite different psychic incomes. In consequence, we can hardly solve one portion of the problem in terms of one sort of income, and another part of the problem in terms of a different sort of income, and make close comparisons. Comparisons can be made only in a most general way, and then only when all the assumptions and implications are clearly stated.

2. Variations in the Significance of Income.—It is a generally accepted proposition that as the amount of money which a person possesses increases, the importance of each dollar to him decreases. In other words the “satisfactions” which each of his dollars purchases for him are smaller. It has even been suggested that we may regard the satisfaction which a person derives from his income as commencing when he has enough to support life, and afterwards as increasing by equal amounts with every equal successive percentage that is added to his income; and *vice versa* for loss of income.¹ Acceptance of this hypothesis leads directly to certain definite conclusions regarding the relation between money income and psychic income. The first of these conclusions is that psychic income is not proportional to money income in all cases where the people are of similar makeup in their wants and capacities. The second, that a more equal distribution of money incomes, which involves the transference of income from a relatively rich to a relatively poor man of similar temperaments, will increase the total of psychic incomes or satisfactions.² More intense wants are satisfied at the expense of less intense wants. Both of these conclusions are modified in cases where the comparisons are not between persons of the same temperament. If the rich are, by nature, able to secure a much greater satisfaction from an expenditure than the poor from a similar expenditure, then these conclusions may not be valid. In so far, however, as these differences in the ability to use goods are the result of differences in environment, or association with these goods, the transference of incomes, while not immediately increasing the sum of “satisfactions,” will ultimately do so when those whose incomes have been changed have become adjusted to the new levels.

Moreover, it is probable that not only does the “desiredness” of each unit of consumable income decrease as an individual procures a larger income, but also that this

¹ Cf. MARSHALL, “Principles of Economics,” 8th Ed., p. 135.

² Cf. PIGOU, A. C., “Economics of Welfare,” 1st Ed., p. 52.

decrease diminishes as the magnitude of his consumption increases. Von Wieser states the point as follows:

The higher the income, the more slowly the value of money will be lowered as the income increases. In a household advancing from the first to the second thousand of income, from the level of a minimum of existence to succeeding levels, the personal value of money drops amazingly; the scales of basic needs pass with comparative rapidity from the point of highest tension to that of relaxation. A brief inspection of the management of the household, in this case, shows the observer at once the particular plane on which it stands. From the ninth to the tenth thousand, the decrease of the money value, although perceptible, is already less marked. The investigator must be keen in order to discern the income level. From the forty-ninth to the fiftieth, or from the ninety-ninth to the hundredth thousand, the decrease of money value becomes less and less noticeable; the marginal zones become broader and broader, and it becomes increasingly difficult for the observer to distinguish grades of satisfied desires.¹

It follows directly from this proposition that a fluctuation of a given absolute amount in the income of a poor man is more detrimental than the same absolute fluctuation in the income of a rich man. It follows by definition that the gain in satisfaction from a given increase in income is less than the loss in satisfaction from a similar decrease in income, and that the net loss will be smaller with the rich man than with the poor man, since the differences between these quantities will be greater with the small than with the large income.

3. Dangers of Comparing Money Incomes.—Comparisons are frequently made of money incomes between different periods of time in the same country. These comparisons cannot be exact for real incomes or relative welfares, disregarding even the impossibilities of an accurate summation of the money income. There is certain income which escapes both notice and assessment in any calculation of money incomes:² (1) There are certain unpaid services furnished in the order, particularly those of women. The

¹ VON WIESER, "Theory of Social Economy," p. 230.

² Cf. SMART, WILLIAM, "The Distribution of Income," Chap. XI.

services of the housewife are as much a source of real income as though they had been purchased in the market, and they amount to, let us say, one-fifth of the value of the goods bought and sold in the market. (2) There are differences in the qualities of goods. The comparisons of money incomes over a period of time fail to reflect properly these improvements. The workingman now spends his income for commodities quite different from those for which the workingman of 1850 spent his. Comparisons between countries are rendered inexact for similar reasons. (3) The money income fails to account for such things as leisure, more congenial occupation, improved personal relations, the growth of freedom, good government, and education. Leisure, for example, although not directly purchased, is nevertheless a quasi-commodity and one to which people divert their consumption as their incomes become larger. It is a well-established fact that the high-wage countries and industries are the countries and industries of the shortest hours, and at the same time those in which the least labor of women and children is used to supplement the family income. (4) There are certain items to be balanced against these uncounted items. A greater proportion of goods and services is now sold in the market than formerly. Similarly, while the number of hours of working has been lessened there has been a speeding up of tasks. (5) The general level of prices, as will be subsequently pointed out, may have changed, and this can be only roughly measured over any considerable period.

The national income of the United States, as estimated for different periods, is given below. These figures must, however, be interpreted with the qualifications which we have indicated.

TABLE III.—ESTIMATES OF THE TOTAL AND PER CAPITA INCOME OF THE UNITED STATES AT DIFFERENT PERIODS

Year	National income				Per capita income	
	Estimates by King, ¹ billions of dollars	Estimates of the National Bureau of Economic Research ²		Estimates by King ¹	Estimates of National Bureau of Economic Research ²	
		Billions of dollars	1913, dollars		Actual dollars	1913, dollars
1850	2 2			95		
1860	3.6			116		
1870	6 7	...		174		
1880	7 4			147		
1890	12 1	. .	. .	192		
1900	18.0	....	...	236		
1910	30.5	28.4	29.1	332	307	315
1915	.	32.7	32.0		326	319
1920		74 1	36.3		697	341
1925		86.4	51 1		752	445

¹ KING, "Wealth and Income of the United States "² *News Bulletin* of the National Bureau of Economic Research, Feb. 21, 1927.**4. The Inequalities of Income; Causes and Results.—**

The inequalities of money income which we have pointed out arise from two principal sources: differences in innate abilities of individuals and differences in the inheritances of property and environment. Psychological data indicate that people differ greatly in their innate capacities, and that if these capacities could be completely tested and compared, we should find people grouped around the typical curve of normal distribution regarding them. In this curve the largest number would be near the center, while as the capacities became higher or lower there would be fewer persons in each group as we passed to the extremes.

One would expect from the distribution of capacities that the income curve would be of a similar shape. We have already seen that this is not true. The income curve

is very one sided. The two curves may be represented by the following diagram (Fig. 1).

The principal cause of the difference in the curves is inheritance. Those who have no particular ability may be high on the income curve through inheritance. The numerous moron sons of wealthy parents are examples. The inheritances which affect incomes are of two types: the inheritance of wealth and the inheritance of environment and opportunities. The effects of the inheritance of property are obvious; they increase the income of the inheritor with little regard to his ability. As shown by the following table, the income from property constitutes an increasing proportion of income as the incomes become larger.

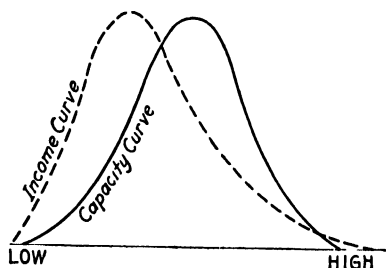


FIG. 1.—Comparison of the distribution of incomes and of innate capacities.

TABLE IV.—SOURCE OF INCOME OF VARIOUS INCOME CLASSES IN THE UNITED STATES IN 1920¹

Income class		Wages or salaries, per cent	Profits, rental, interest, and invest- ment income, per cent
\$	1,000 to \$ 2,000	82.06	17.93
	2,000 to 3,000	78.18	21.82
	3,000 to 5,000	59.71	40.29
	5,000 to 10,000	41.34	58.66
	20,000 to 40,000	30.16	69.84
	100,000 to 150,000	15.04	84.96
	500,000 to 1,000,000	5.54	94.46
	2,000,000 and over	1.22	98.78

¹ Adapted from BOUCKE, "Principles of Economics," Vol. 2, p. 180.

The effects of the inheritance of environment and opportunity are less obvious but much deeper and more important. A mediocre person raised in a superior environment

with good opportunities and assisted by the expenditure of much training is assured of a place in a moderately high income group. It is true that low incomes do not necessarily mean poor environments for children, and large incomes good environments. It is also true that especially gifted individuals push themselves to the top from even the lowest groups. But, in general, the income of the parents has a great deal to do with the environment and opportunities of the children. The importance of this point cannot be over emphasized, since, if it is true, it constitutes a serious indictment of our present economic system. If rewards and opportunities for development are largely matters of inheritance, then the system fails to make the best use of our human resources. It is, of course, the belief that larger incomes or better utilization of those incomes will make available latent abilities among the mass of those who constitute the low-income groups, which gives the social importance to a study of consumption.

There are distinguishable among these income receivers certain broad groups or classes. For most people it is difficult, if not impossible, to move from the group in which they find themselves to one more favored. There is no direct barrier that prevents this passage from one group to another, but there are social stratifications and these affect the learning of trades and professions, and the opportunity to enter business or the professions under favorable conditions. The son of a prominent physician, for example, has a much better opportunity to become a lawyer, because of his superior family connections, than has a day laborer's son. The top of each profession demands men of exceptional ability who have had a long period of education and training. Few have the ability accompanied by the resources, hence this class is small and highly paid. Those from the lower income groups cannot push themselves readily into these stations. The barriers are much less important in this country than in Europe. In Europe, they are nearly insurmountable for ordinary men. Public education and "industrial democracy" are lessening the

difficulties of advancing from one group to another, but there are still serious obstacles for all but the exceptional.

The social cost or loss resulting from unequal incomes becomes most apparent when the extremes of incomes are compared. On the one hand, senseless and often degrading luxuries are indulged in, while, at the other extreme, individuals lack the minimum necessary to maintain physical efficiency. We have no exact measure of the differences in psychic income enjoyed by the various classes, but there are certain visible results of differences in income which are measurable and enable us to infer something of the psychic income. The chief of these measurable items is that of health. An example appears in the following table:

TABLE V.—INFANT MORTALITY RELATED TO THE FATHER'S EARNINGS¹

Earnings, dollars	Infant death rate per 1,000
Under 450	168
450 to 549	137
550 to 649	118
650 to 849	108
850 to 1,049	84
1,050 to 1,249	64
Over 1,249	61

¹ Compiled from the Sixth Annual Report of the Chief of the United States Children's Bureau, "Eight American Cities," 1918, p. 11

There is little doubt that so long as society's income as a whole is not diminished, that, within wide limits, an increase of income enjoyed by the poor at the expense of a similar decrease in the income of the rich would increase the welfare of society.

The unequal distribution of incomes not only modifies consumption by giving some the power to consume more than others, but also modifies the character of the goods chosen on each income level. This is due to the tendency of men to ape their superiors, and since consumption offers, in many cases, a very visible way of imitation, it leads to

extensive indulgence. The rich, therefore, not only possess the power to consume more than the poor, but also the power to modify materially the goods which are brought by the poor with their income.

An increase in the income of the poor, relative to the income of the rich, would affect industry by leading to a change in the proportion of goods of different kinds produced. There would be a smaller production of expensive luxuries and a greater production of necessary articles. "Rare wines would give way to bread and meat, new machines and factories to clothes and improved dwellings."¹ Goods which depend largely for their importance on the fact that few consume them would decrease in importance and price. Such things as diamonds would decrease materially in value.

It is not to be assumed, however, that an absolute equality of incomes would be desirable. The income of every civilized nation when balanced against its population is, after all, pitifully small. The per capita income in the United States in 1918, as estimated by the National Bureau of Economic Research, was only \$372, and this is considerably larger than the per capita incomes of European countries. The chief disadvantage of a more equal distribution of incomes lies in its effect upon the accumulation of capital. The great bulk of saving comes from the larger incomes, since a larger proportion of the smaller income is consumed. The increase of the lower incomes would be quite small since there are a great many in the low-income groups, and the amount of saving would be materially decreased. Capital accumulation is proceeding at a more rapid rate under an unequal distribution of incomes than it would be likely to under a more equal distribution. It is, in consequence, often argued that when we adopt a longtime view of society, this inequality of incomes secures a more rapid progress than we would have under a more equal distribution of incomes. It must not be overlooked, however, that much of the increase of

¹ PIGOU, A. C., "Economics of Welfare," 2nd Ed., p. 76.

the income of the poor, if it were at the expense of the larger incomes, while it would not be saved and appear in the form of capital, would, nevertheless, be invested in a very real sense. Better homes and living conditions would be provided and more would be expended on education. It is quite possible that these investments might yield even more to social well being and progress than similar investments in material equipment.

The increase in real income to the recipients of a larger income, following a more equal distribution of money incomes, cannot be calculated. The quantities of the various goods purchased would not be the same and their prices would probably change. If the majority of goods in which the expansion of consumption took place were produced at increasing cost, then a general increase of \$100 per year for a large number of workers would not buy as much as an increase of \$100 a year to an individual worker.

Society may, if it chooses, modify the existing distribution of incomes. The rich may be more heavily taxed, certain services may be provided the poor at lower prices than their general cost, and industries may be governmentally operated. Whether any of these are desirable or how far the reduction in the inequality might well proceed are highly controversial matters and outside the scope of this book. All we can point out here is that some reduction in this inequality is desirable.

Problems

The following levels of consumption have been distinguished and named by certain writers:¹

1. *The Poverty Level*.—A level at which the income, even though expended with ordinary prudence, is insufficient under modern city conditions for even the physical upkeep of a family of moderate size.

2. *The Subsistence Level*.—A level at which the income is sufficient for complete physical and material upkeep of a base kind, but insufficient either for major emergencies or for any social pleasures that cost money.

¹ Cf. DOUGLAS, HITCHCOCK, and ATKINS, "The Worker in Modern Economic Society," pp. 283-287.

3. *The Subsistence-plus Level (the Minimum for Health and Decency).*—This level allows explicitly for not only the physical but the elementary social necessities.

4. *The Comfort Level.*

(a) At what incomes would you expect to find each of these levels?

(b) Draw up a statement of the consumption expenditure ranges between which it would be possible for an observer to distinguish. For example, could an observer distinguish between \$1,000 and \$2,000 annual expenditure levels, or could a closer classification be made? Would the possibilities of distinguishing be by equal amounts at all incomes, or become more difficult as incomes became larger? What would be the principal factors enabling classifications to be made?

CHAPTER IV

CHANGES IN THE GENERAL LEVEL OF PRICES

It is a familiar fact that the prices of commodities change. When the prices of a large number of commodities are observed over a period of time, a great many changes will be found to have taken place. When one year is compared with the preceding year, some prices will be found to have risen, some to have fallen, and some to have remained the same. The range covered by these fluctuations may be very large; for example, in 1896 the average wholesale price of potatoes fell 54.6 per cent while the price of coke rose 41.5 per cent as compared with their average wholesale price in 1895. Among these many sorts of price changes, we are able to distinguish two general groups: those which affect only one or two commodities, and those which are widespread and general, and influence all prices. We speak of the latter as a change in the general price level or the purchasing power of money, by which we mean that in general the dollar will purchase more or less goods than formerly.

1. The Measurement of General Price Changes.--

It is difficult, because of the diverse changes in prices, to say whether the dollar will purchase more at one time than at another. It will purchase more of some commodities and less of others. A summary or average of these many changes must be made in order to determine what the change, in general, has been. An index number is the device by which these changes are summarized and expressed. Index numbers may be used to express other changes as well as changes in prices; for example, changes in the physical volume of production or the volume of business, but their more usual use is in connection with prices. The prices to be included in the index depend upon

the particular purpose for which the index is prepared. For example, an index of the general price level will require that all prices be represented, or at least the prices of all the more important commodities. Some indices, on the contrary, will deal only with the prices of a particular group of products; for example, an index of the cost of living will include only the prices of the commodities which the consumer purchases. The problems involved in the construction of index numbers are complex, and can only be briefly mentioned here.

Index numbers are of two general types:¹ (1) those in which the prices or individual items have each been reduced to a percentage of the price or size of those items in a year or period called the base, and an average taken to represent the change of the group; and (2) those in which the group of items is represented by an appropriate average or the total, and these averages or totals expressed as relatives of the average or total in the base periods. Index numbers of the first type are averages of relatives, and of the second type ratios of averages or aggregates.

Let us suppose the problem to be that of measuring the changes of the retail cost of meats, relative to their cost in 1925 and we have the following data:

Kind of meat	Average retail price of meat in cents		
	1925	1926	1927
Beef	30	25	20
Pork	30	35	35
Mutton	40	50	40

1925 is taken as the base period. In the first type of index, the average of relatives, we would consider the prices of each kind of meat in 1925 as representing 100 per

¹ Cf. YOUNG, A. A., in RIETZ, "Handbook of Mathematical Statistics," Chap. XII, Index Numbers.

cent, express the price in each following year as a percentage of the 1925 price, and take an average of these relatives.

Kind of meat	1925	1926	1927
Beef	100	83	67
Pork	100	117	117
Mutton	100	125	100
Total	300	325	284
Average	100	108	95

In the second type of index we would simply sum or average the actual prices and express as relatives:

Kind of meat	Price per pound		
	1925	1926	1927
Beef ..	\$0.30	\$0.25	\$0.20
Pork.....	0.30	0.35	0.35
Mutton . .	0.40	0.50	0.40
Total	\$1.00	\$1.10	\$0.95
Index	100	110	95

A simple summation of prices is seldom sufficient to constitute a desirable index. If people generally consume four times as much beef as mutton, the decrease of 5 cents in the price of beef in our illustration would have been of twice the significance of the 10-cent increase in the price of mutton. Commodities, in consequence, are usually "weighted" or multiplied by some number which indicates their relative significance for the particular purpose for which the index is being prepared. This is called a "weighted" index number. When the prices are not weighted, the index is called a "simple" or unweighted index. If we should decide beef were twice as important in the meat index as pork, and pork twice as important as

mutton, and construct a weighted index using our former figures, we would obtain the following results:

Kind of meat	Weighted average of relatives				Weighted ratio of aggregates		
	Weights	1924	1925	1926	1924	1925	1926
Beef	4	400	333	267	1.20	1.00	0.80
Pork	2	200	233	233	0.60	0.70	0.70
Mutton.	1	100	25	100	0.40	0.50	0.40
Total	7	700	691	600	2.20	2.20	1.90
Index		100	99	86	100	100	86

Where index numbers are prepared for special purposes, such as to show changes in the cost of living, they are nearly always weighted. It has sometimes been argued that where index numbers of prices in general are constructed by averages of relative prices, weighting may be dispensed with. The unweighted index number, however, is sensitive to abnormal variations of unimportant prices and is too little influenced by large variations of important prices. Usually index numbers are more accurate when weighted.

An additional opportunity for variation in index numbers arises because of the different averages which may be used to summarize the data. The most common is the arithmetic mean or ordinary average derived by dividing the sum of the individual items by the number of items, or by the sum of the weights in the weighted index. The other average which is frequently used is the geometric mean, where all the prices or ratios for a given date are multiplied together and the n th root extracted, the n standing for the number of commodities included. The geometric mean for 1926 for our unweighted average of relatives would be $\sqrt[3]{83 \times 117 \times 125} = 105.8$. The geometric mean is widely used for averaging price ratios, since equal weight is given to equal ratios of change. This is equivalent to saying that equal weight is given to a price which

doubles and a price which falls one-half.¹ Medians, modes, and harmonic means are occasionally used in preparing index numbers. The figures may also be left as an aggregative instead of striking an average.

The most widely used index of the general price level in the United States is the Wholesale Price Index of the U. S. Bureau of Labor Statistics. The recently revised number is a weighted aggregative index of 550 quotations of wholesale prices. Each quotation is weighted by an estimate of the annual amount marketed during the years from 1923 to 1926. The sum of these items for each period is expressed as a relative of the sum in 1926. Sub-totals are found for nine commodity groups and these are also expressed as indices. The Federal Reserve Board publishes index numbers compiled from prices collected by the Bureau of Labor Statistics, using the Bureau of Labor Statistics methods but grouped into separate indices of raw materials, producers' goods, and consumers' goods. A large number of indices are prepared by various private agencies. There are, for example, indices prepared by Dun, Bradstreet, Fisher, The Harvard Bureau of Economic Research, the *Annalist*, Snyder, and numerous others.

2. Types of Price Movements.—When the general level of prices is observed for a considerable period of time, three distinct types of price movements appear. These can be distinguished in Fig. 2. (1) There are two periods when prices rise violently and very high, and in a short period fall violently and very far. They appear on our chart during the World War period, from 1914 to 1921 and during the Civil War period from 1860 to 1870. These violent movements of prices are called periods of inflation and deflation. (2) There are certain sustained general movements of the price level continuing over a long period of time. For example, from 1873 to 1896 the general trend of prices was downward, and from 1896 to 1914 the

¹ See WALSH, C. M., "The Problem of Estimation," for a classic presentation of the arguments in favor of the geometric mean.

trend was upward. These general movements of prices are spoken of as "secular trends." (3) There are wave-like movements of prices above and below the secular trend which last from 3 or 4 years to 10 or 12 years. These are called cyclical movements and are related to and correspond closely with the so-called "business cycle."

The secular changes in the price level are explained by the economist, principally by the quantity theory of money. The price level is thought to depend upon the

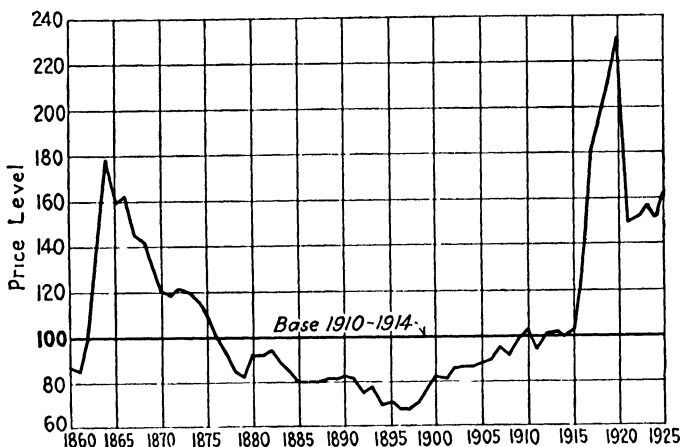


FIG. 2.—Changes in the general price level from 1860 to 1925.

relation between amount of money in circulation and the quantity of commodities that are bought and sold. The greater the quantity of money relative to a given quantity of goods, the higher the price level is likely to be. If the quantity of goods increases more rapidly during a given period than the quantity of money, prices may be expected to fall. It has been shown that, previous to the World War, an annual increase of about 3 per cent in the actual stock of gold in existence would have been necessary in order to have kept prices steady.¹ When the stock of gold increased at a lower rate than 3 per cent annually, the general level of prices fell, and when the stock of gold

¹ Cf. CASSEL, G. A., "Theory of Social Economy," pp. 441-454.

increased more rapidly than 3 per cent annually, the general level of prices rose. The period from 1873 to 1896, for example, was a period of declining gold production, goods were increasing rapidly, and, in consequence, prices fell. Gold was produced at an increasing rate beginning with 1896, following the discoveries of deposits in South Africa and Australia, and prices rose gradually until the inflation period of the World War. The relation between the supply of gold and the general level of prices is different now from that before the war; exactly how much different has not been determined. Currency conditions have altered. Not only is there little gold in circulation, but it is recognized that the central banks of the world kept much larger gold reserves than they were likely to need. Thus, we may expect, under a similar ratio of gold to commodities, higher prices now than previous to the war.

Periods of inflation usually result from very large issues of paper money. When this money cannot be exchanged for gold as formerly, the general price level ceases to depend directly upon the stock of gold; the principal factor is now the quantity of paper money. Inflation frequently accompanies wars, since wars call for expenditures much larger than the ordinary revenues of the state, and the issuing of money provides the state with a quick means of purchase.

The cyclical changes in the general level of prices above and below the secular trend are, in a large measure, due to the variations in business called the business cycle. In these fluctuations, there are periods of considerable expansion and contraction of credit by banks. During a portion of the cycle, bank credit expands the means of payment for goods more rapidly than goods are increasing, and here we find rising prices, and in another phase the greater contraction of credit and falling prices. There are many other factors, such as the general business psychology, which influence these short-time movements, but bank credits play a dominant part.

General changes of prices are of great significance to the community. For example, when they are unforeseen they

affect materially the relations of debtors and creditors. Those who borrow are favored by rising prices, since the sum which they pay back is worth less in terms of goods and services or in labor than the sum which they borrowed. To take an extreme case,¹ let us suppose a working girl to have deposited \$100 in a savings' bank in 1897 with interest at 3 per cent compounded annually. If she had withdrawn it in 1925 she would have had nearly \$230 due her, but when she came to purchase goods she would find that prices had risen by about the same amount, and, in consequence, she could purchase no more goods with her greater amount of money now than she could have purchased with her smaller amount at the beginning of the period. Her dollar has depreciated in purchasing power rapidly enough to offset her gain in interest. Persons who have fixed incomes in dollars, such as those living on the income from bonds or on the proceeds from life insurance, suffer in periods of rising prices and gain in periods of falling prices. The price changes affect other persons in the community, since their incomes do not usually rise and fall at the same rate as the prices of the things which they buy. If all prices rose and fell simultaneously, only those with long-time contracts would be affected, but there are lags of varying degrees of time.

3. The Business Cycle and the Consumer.—The fluctuations in business activity, called the "business cycle," are indicated by changes in the general price level about as well as by any other single index. The business cycle, however, consists of a great deal more than simply a change in the general price level. There are changes in employment, the rates of wages, the volume of production, profits, interest rates, the volume of credit, and in other important relationships. Consumers will be variously affected by the cycle and in different portions of it. This is because the term "consumers" includes everyone, and different groups are affected differently by the cycle and its stages. Incomes

¹ Cf. FISHER, IRVING, "Stabilizing the Dollar," p. 60.

and the prices of the products which are purchased with those incomes do not change together, and, in consequence, real incomes vary.

These fluctuations in business activity follow one another in a fairly definite succession. The cycle is generally divided into four stages: periods of depression, of recovery, of prosperity, and of liquidation. There is no constant length for the entire cycle nor for any of the stages of the cycle. Each cycle is distinct in itself and differs from other cycles in important details. The average interval from peak to peak in the cycle has been about 40 months in recent years, with the individual cycles ranging roughly from 35 to 45 months. The length and intensity of the cycle has lessened distinctly since 1900. There is no sharp break between the different stages of the cycle—they pass gradually from one to the other. The stages, however, differ somewhat in their lengths; the period of recovery, for example, is generally the longest, that of liquidation the shortest. Table VI shows the estimated length of the phases of business from 1903 to 1914. The grouping is slightly different from that which we have made.

TABLE VI.—LENGTH OF THE FIVE PHASES OF THE BUSINESS CYCLE IN MONTHS DURING THE PERIOD 1903-1914¹

Phase	November, 1903 to December, 1907	January, 1908 to August, 1910	October, 1910 to December, 1913
1. Depression	10	6	10
2. Recovery	18	14	12
3. Business prosperity.	10	4	8
4. Financial strain	10	4	4
5. Industrial crisis	2	1	6
Length of complete cycle	50	32	40

¹ Supplement to the *Review of Economic Statistics*, September, 1925, p. 223

The relations between the production of goods, their consumption, the accumulation of stocks of goods, and the prices of goods vary during the cycle. If we begin with

the period of depression, we find that it is characterized by small production, low prices, and low profits. There is a great deal of unemployment. The volume of physical production frequently falls as low as 50 or 60 per cent of average production in some industries. There are large stocks of goods accumulated from phases of the earlier cycle. These consist of consumers' goods, partially processed goods, and raw materials. Consumption is low, relative to other periods, but is greater than current production. The real income of society is low and for nearly all classes. Since current production is less than current consumption, the existing stocks of goods must be cut down, and after they have been exhausted, goods must be produced at an increased rate if the current rate of consumption is to be maintained. The increase in production is not immediately accompanied by a rise in prices, since many of the plants have been operating at only a part of their capacity, and may actually lower their unit costs as they expand operations. Sooner or later, however, additions to plants and repairs become necessary and the industries making producers' goods increase their activity. Prices now begin to rise and the cycle has passed into the so-called "recovery stage."

The increase of employment which begins during the period of depression, and extends through the period of recovery and well into that of prosperity brings an increasing real income to labor as a class. The increase in the rates of wages comes somewhat after the increase in prices has begun and the rate of increase continues to lag behind that of prices. The laborer who has been previously employed thus suffers a decrease in real income, since the prices of the goods which he is purchasing are rising more rapidly than his wages. The amount paid laborers as a total, however, is increasing, and increasing even more rapidly than prices, because of the greater employment of labor, and, in consequence, the real income of labor as a whole is increasing. Profits are also increasing since wages, rents, and capital costs are lagging behind prices.

This means that the real income of the employing class will be increasing.

The rising prices stimulate the production of consumers' goods and greatly intensify the activity in the production of producers' goods. Dealers, manufacturers, and even consumers begin to expect the increase of prices to continue and begin to accumulate stocks. This continues through the period of prosperity. For this to take place, the production of goods must exceed the current consumption. Prices now rise rapidly. The period of recovery passes into that of prosperity. During this period the real wages of labor are high, both because more are employed and because the rates of wages begin to creep up to the level of prices. Men also move into higher grades of employment. It is quite common during periods of prosperity, when labor is scarce, for laborers to advance beyond their accustomed class. For example, an unskilled laborer may secure a job as a skilled laborer. The income of the employing class probably begins to decrease during this period. Certain producers begin to recognize that their lines are overcrowded, and lessen their activities toward expansion. This affects materially the demand for productive equipment and the buying power of the laborers in these industries.

There is now a rapid passage into the period of liquidation. Dealers try to work their stocks off and cease buying. Industries shut down as far as possible. Employment decreases very rapidly. The following table from the U. S. Bureau of Labor Statistics which gives the members on the payrolls of identical establishments in March, 1920, compared with March, 1921, shows the rapidity with which these decreases may take place.

The rates of wages fall, but not as rapidly as prices, so that the real wages of those who remain employed are higher. The great increase of unemployment and part-time work, however, lowers the real income of the laboring class a great deal. Workers also change from higher to lower grades of work, which lowers real incomes even though the

rates of pay for each type of work remain the same. Heavy losses are sustained by many business men, and the incomes of this class are seriously curtailed. The period of depression has arrived, which is turned later into a period of increasing activity in the manner which we have indicated.

TABLE VII.—CHANGES IN THE NUMBER EMPLOYED IN CERTAIN INDUSTRIES BETWEEN 1920 AND 1921¹

Industry	Number on payroll in March		Percentage decrease
	1920	1921	
Iron and steel	188,007	133,738	28.9
Automobiles	152,692	70,947	53.5
Boots and shoes	74,685	55,525	25.7
Cotton manufacturing	60,928	54,494	2.4
Car building and repairing	57,245	48,728	14.9

¹ *Monthly Labor Review*, U. S. Bureau of Labor Statistics, May, 1921, p. 100

The relation of productive activity and the distribution of goods to consumers during the period from 1919 to 1925 is given in Fig. 3. These indices represent the differences in industrial activity and distribution to consumers as measured from the line of growth of each series.

The fluctuations of the money incomes of the business men are probably greater than those of the wage earners. In periods of recovery the business man's income increases much more rapidly than that of labor. The consumption of the business men, however, and of those who are supported by fixed money incomes, probably does not vary as much as that of labor in general. During the period of liquidation and depression, the business men are likely to cut into their capital, while during the period of recovery and of prosperity they will probably add materially to their capital. The consumption of those with fixed incomes is likely to vary inversely with the fluctuations of prices.

It does not lie within the scope of our discussion to consider critically the proposals for the elimination of price fluctuations and business variation. The recommendations of the Federal Committee on Unemployment

appointed during the depression of 1921, may however, be briefly stated. They are:

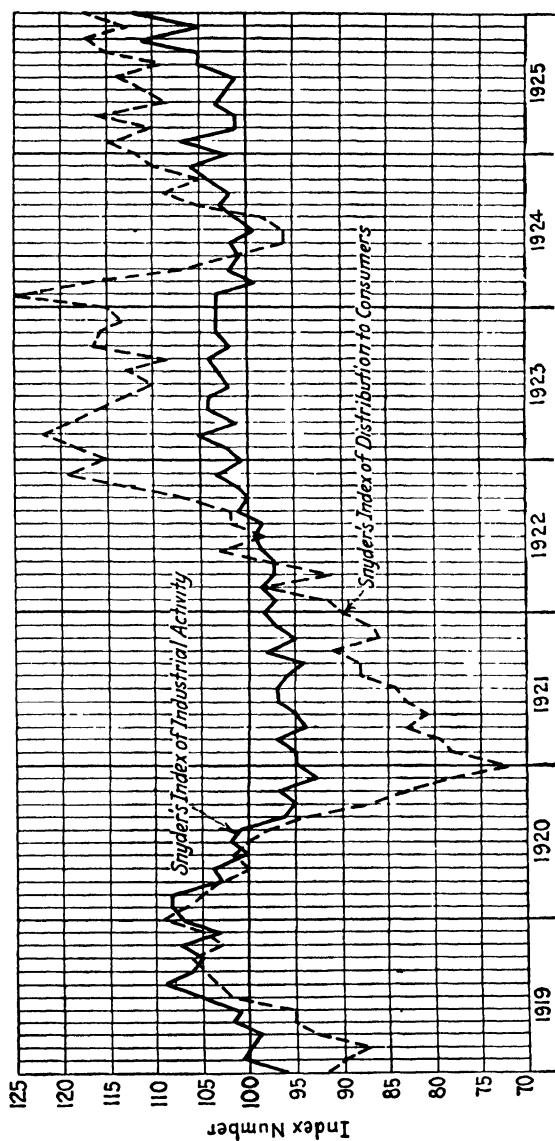


FIG. 3.—Relation of production and consumption during the business cycle as indicated by Snyder's indices of industrial activity and distribution to consumers.

1. Increased effort in the compilation, dissemination, and interpretation of fundamental statistical data of trade,

so that business men may more intelligently place their production and sales.

2. Control of credit expansion within reasonable limits by the banks of the country, with especial caution during the active stages of the cycle.

3. Centralized control of inflation, so far as practicable, by the Federal Reserve banks, through manipulation of discounts and interest rates.

4. Increase of reserves and decrease of industrial expansion on the part of private business during the active stage of the cycle.

5. As a special part of the preceding point, construction activity, both public and private, should be postponed during periods of prosperity. If sufficient reserves have been built up, this construction may easily be undertaken during the period of decline and depression, forming a definite check to the decline and a curtailing influence on the period of industrial stagnation.

Problem

The following is extracted from Raymond Pearl's "The Nation's Food," page 218, for the year 1917 to 1918.

Commodity	Proteins in metric tons	Fats in metric tons	Carbo- hydrates in metric tons	Calories in millions
Wheat and wheat products	940,543	81,835	6,195,182	30,021,979
Corn products	242,395	118,845	2,155,310	10,938,521
Potatoes	143,167	7,953	1,169,204	5,455,418
Sugars	439	....	4,374,194	17,939,129
Nuts	81,939	179,337	63,054	2,262,988
Vegetable oils	...	554,851	.....	5,162,528
Beef and products	539,703	513,596	1,577	7,017,398
Pork and products	378,799	2,045,653	2,859	20,594,616
Poultry and eggs	248,772	175,220	....	2,648,262
Dairy products	788,969	1,505,129	917,169	21,010,397
Total—All products in- cluding more than above	3,784,690	5,479,939	17,135,813	136,819,738

Prepare three indices, one of the costs of carbohydrates, one of proteins, and one of fats. Use Pearl's data as weights, rounding off the figures, and using only one or two of the significant figures. Thus the index for carbohydrates might be weighted as follows: wheat (flour) 6, corn (cornmeal) 2, potatoes 1, and sugar 4. Use only four products for each index. Use Bureau of Labor Statistics prices. Annual average. Wholesale prices can be found for 1890 to 1925 in Bureau of Labor Statistics *Bull* 415. Prepare the index for a 10-year period. Use any type of weighted index you choose.

CHAPTER V

THE COST OF LIVING AND ITS EFFECT UPON REAL INCOME

The changes which take place in the prices of commodities cause changes in the cost of living of the consumer. The term "cost of living," is however, somewhat ambiguous. It may refer to the money expense of living, which is the sense in which we shall employ the term, except where specific exceptions are made, or it may refer to the effort or the real cost involved in procuring the means for a living. Thus, if the prices of products purchased by the consumer remained the same and his wages for the same effort increased, we would say that the real cost of living had fallen, for he could now procure the same things with less effort. There is no such thing as the cost of living meaning a single general cost of living. There are many different manners of living, and each of these ways will have a different cost. We do not gain much of an idea of these costs by simply comparing the expenditures and incomes of people, since all we find then is that those with large incomes have large expenditures and, hence, high costs of living. It is necessary, in consequence, to set up some outside measure of living not related to income or prices for determining what the costs of living are. There will be many of these costs of living, since there will be many different ways of living.

1. Measurement of the Cost of Living.—A usual way of measuring costs is to set up a certain quantity of goods, which constitute a certain way of living, or the measurable items of a certain way of living, and price these goods. For example, the Bureau of Labor Statistics in 1922 determined a minimum standard quantity budget which they judged to represent the quantities of goods needed to

maintain a family of five, at the minimum level of health and decency. This budget was priced in many places and used to determine the cost of living at a minimum standard. Most of these sorts of studies have been made of costs at a minimum standard. A few, however, include other standards; for example, the National Industrial Conference Board in several studies has included a more liberal standard as well as a minimum standard.

Changes in the cost of living, like changes in the general price level, are customarily measured by index numbers. There are two important index numbers of the cost of living in the United States. One is prepared by the United States Bureau of Labor Statistics, and the other by the National Industrial Conference Board. Neither of these indices proceeds upon the basis of pricing a specific bill of goods at different times and places. Instead, certain items of each of the general budget groups are priced and an index of the changes of each budget group determined. These are then combined to give the general index by weighting according to the relative importance of each group as disclosed in certain budget studies.

The Bureau of Labor Statistics' Index Number of the Cost of Living is made up of the cost of food, clothing, housing, fuel and lighting, furniture, and house furnishings, and miscellaneous items. An index of the changes of each of these groups relative to their costs in 1913 is prepared. A weighted average of these relatives is used for the total cost figure. The weights used are the average percentages of the total expenditures of the family for each group as determined by the 1918-1919 study of family budgets. These group weights for the United States are as follows: food, 38.2; clothing, 16.6; housing, 13.4; fuel and light, 5.3; furniture and furnishings, 5.1; miscellaneous, 21.3. The index is now published four times a year—March, June, September, and December. The individual cities have slightly different weights. An index is prepared for each of 32 cities and for the United States. The index of housing costs is calculated from rental figures which are

obtained on from 400 to 2,000 houses and apartments by special representatives of the Bureau who visit agents and secure the data directly from their records. Four or five quotations in each city are taken on a large number of articles of clothing, furniture and house furnishings, and miscellaneous items, and indices prepared from these for each of those groups. The index of food prices of the Bureau of Labor Statistics is used for the food relative. The latter is sufficiently important to warrant special description.

The Bureau of Labor Statistics' index of the price of food is prepared for 51 representative cities in the United States. The actual retail selling prices of 43 articles of food are obtained from dealers in these cities, on the fifteenth of each month. The number of articles included in the index prior to 1921 was 22. The dealers selected represent the different classes of stores found in that place, the sample representing approximately the same proportions of types of stores as are found in the whole city. For the larger cities, at least 25 stores are used; for the smaller cities, the number is occasionally reduced to 15. Difference in consuming habits in various portions of the country is taken account of by the difference in the weights used in the different cities. The country is divided into districts and, from surveys, the approximate consumption of each of the 43 products determined for 1918. The following table indicates the approximate nature of these weights for a few commodities:

TABLE VIII.—EXAMPLE OF FOOD WEIGHTS USED IN THE BUREAU OF LABOR STATISTICS RETAIL FOOD INDEX, ANNUAL CONSUMPTION PER FAMILY¹

Article	United States	North Atlantic	South Atlantic	North Central	South Central	Western
Sirloin steak.	70	70	61	73	63	70
Ham	55	48	111	44	124	38
Flour	454	416	568	479	653	301
Butter	117	119	102	124	89	109
Potatoes	882	828	666	11,098	798	618

¹ "Retail Prices," United States Bureau of Labor Statistics' *Bull.* 270, p. 11.

The index for each city is an aggregative reduced to a relative of the 1913 price. Averages are prepared for the whole United States as well as for the 51 cities.

The cost-of-living index of the National Industrial Conference Board is very similar in its method of construction to that of the Bureau of Labor Statistics. The groups included in the index are food, shelter, clothing, fuel and light, and sundries. The food index used is that of the Bureau of Labor Statistics, but the indices for the other groups are independently determined. Quotations are

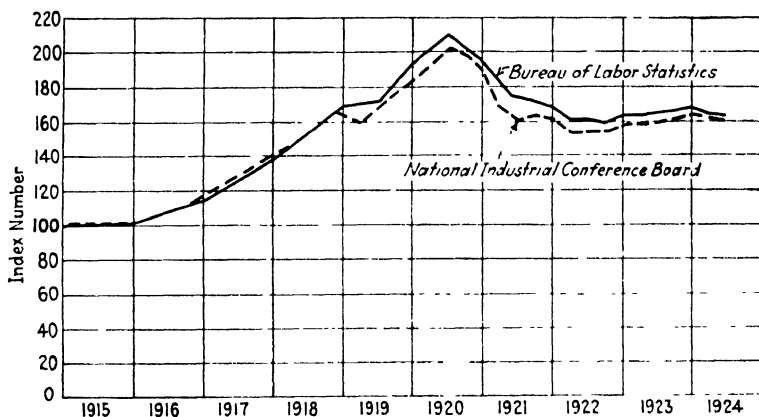


FIG. 4.—The cost of living in the United States from 1915 to 1924 as shown by the indices of the Bureau of Labor Statistics and of the National Industrial Conference Board.

gathered by the questionnaire method from a larger number of cities than are included in the Bureau of Labor indices, but, in general, fewer quotations are procured from each city, and from fewer regular sources. The base of the index is July, 1914. The weights were arrived at by taking the percentage of the total expenditures spent for each group in six separate investigations. These were weighted according to the number of families covered in each investigation, and the results averaged. The following percentage weights resulted and are used by the Board: food, 43.1; shelter, 17.7; clothing, 13.2; fuel and light, 5.6; sundries, 20.4. The board makes a "large" investiga-

tion in March, July, and November of each year, and publishes an index each month of the year.

The trend of the cost of living, as disclosed by the two indices, is very nearly the same, as shown by Fig. 4. During the period of falling prices in 1919 to 1921, the National Industrial Conference Board figures showed the greater decline.

2. Variations in the Cost of Groups of Goods.—The indices of the prices of the various groups of articles do not rise and fall uniformly. The following table from data of the U. S. Bureau of Labor Statistics shows the changes in indices of the major divisions of expenditures for the United States from 1913 to 1925.

TABLE IX—CHANGES IN THE COST OF LIVING IN THE UNITED STATES, 1913 TO 1927

(Reported by the Bureau of Labor Statistics)¹

	Percentage increase from December, 1913, to									
	Dec., 1914	Dec., 1915	Dec., 1916	Dec., 1917	Dec., 1918	Dec., 1919	Dec., 1920	Dec., 1921	Dec., 1922	Dec., 1923
Food	5.0	5.0	26.0	57.0	87.0	97.0	78.0	49.0	46.6	50.3
Clothing	1.0	4.7	20.0	49.1	105.3	168.7	158.5	81.1	71.5	76.3
Housing	0.0	1.5	2.3	0.1	9.2	25.3	51.1	61.1	61.9	66.5
Fuel and light	1.0	1.0	8.1	21.1	47.9	56.8	91.9	81.1	86.1	84.0
Furniture and furnishings	1.0	10.6	27.8	50.6	113.6	163.5	185.1	118.0	108.2	122.4
Miscellaneous	3.0	7.4	13.3	10.5	65.8	90.2	108.2	196.8	100.5	101.7

	Percentage increase from December, 1913, to			
	December, 1924	December, 1925	December, 1926	December, 1927
Food	51.4	65.5	51.8	55.9
Clothing	71.3	69.4	36.7	62.9
Housing	68.2	67.1	34.2	60.2
Fuel and light	80.5	86.9	88.3	83.2
Furniture and furnishings	116.0	114.3	107.7	104.6
Miscellaneous	101.7	103.5	103.9	105.1

¹ "Cost of Living in the United States," U. S. Bureau of Labor Statistics, *Bull.* 357, p. 466. Subsequent figures from the *Monthly Labor Review*.

The table indicates that, in a period of rising and falling prices, we may expect to find food costs rising first and falling first. Food costs will be closely followed by clothing costs which rise higher and do not fall as rapidly. Housing costs lag behind the other groups, rising last and falling last. Furniture and furnishings, and fuel and light appear to behave more like housing than food and clothing costs. Index numbers of the cost of living which are based upon the prices of a constant bill of goods show the cost of living in the latter period in the same manner as in the base period. Actual laborers, however, must rearrange their consumption to make allowance for these differences in cost. A knowledge of the adjustment in the purchased goods which is made during the rise and fall of prices would be valuable. We have no comprehensive study of this as yet.

The variation in the costs of these different groups also indicates that no single index will properly show changes in costs for the various classes of the population. As will be subsequently pointed out, those in different income groups use different proportions of their incomes in the various lines of expenditures. A period of falling prices, for example, is likely to benefit the low-income groups less than the high-income groups, since the lines of expenditures which lag on the downward drop of prices constitute a larger proportion of the expenditures of the low-income groups than of the high-income groups. We need an index of the changes in the cost of living in the higher- as well as the lower-income groups.

Table X gives, for two different income groups, an index which has been computed from the data of the Bureau of Labor Statistics. The indices of the various groups of the budget as reported by the Bureau of Labor Statistics have been used. The weights are the proportions of the total expenditure spent by the particular income group in the Bureau of Labor Statistics' study of 1918. This is the study from which the Bureau has taken the average proportion of expenditures for its weights. Even

this crude method of preparation shows a difference of as much as ten points in the two indices. There arise additional differences which such a method of computation cannot take into account because of the fact that different qualities of these products are consumed by the different income groups, and the different qualities may not all show the same changes in cost.

TABLE X.—COMPARISON OF INDICES OF COST OF LIVING FOR TWO DIFFERENT INCOME GROUPS

Year (December)	Under \$900	\$2,500 and over
1913	100 0	100 0
1914	103.0	103 0
1915	104 7	105.4
1916	118 0	118 6
1917	142 1	143 7
1918	172 4	177.3
1919	194 2	204 5
1920	194 8	205 7
1921	170 8	177 3
1922	166 4	171.7
1923	170 0	175 4
1924	169 5	174 5
1925	176 9	179 5

The cost-of-living index is often thought of as the index of the purchasing power of the consumer's dollar. When the index is high, the purchasing power is low, and when the index is low, the purchasing power of the consumer's dollar is high. The index, then, may be taken to represent the dollars which are necessary to purchase the same quantity of the same kind of goods as a dollar purchased in the base period, that dollar being expended in the manner assumed by the index. The idea of the purchasing power of the consumer's dollar must not be confused with the idea of the purchasing power of the consumer. The latter depends upon the number of dollars which the consumer has, as well as the prices of goods; the former depends solely upon the prices of goods. Even though the

purchasing power of the consumer's dollar might decrease, the purchasing power of the consumer could still increase because the number of dollars which he had was increasing more rapidly than prices were falling.

3. Attempts to Measure Real Income.—We have defined real income as consisting of goods and services, and have pointed out that it is impossible to compare real incomes directly, since these goods and services vary among persons and times. We can, however, approach their measurement indirectly. One method is to determine the amount of money necessary to purchase a given quantity of goods and services, and compare this with the money income of the group. This calculation usually takes the form of a division of the money income by a cost-of-living index with the resulting quotient expressed as an index.¹ This represents an index of what we have termed, in the preceding paragraph, "the purchasing power of the consumer." A practical difficulty which arises with this method is that neither the Bureau of Labor Statistics nor the National Industrial Conference Board indices of the cost of living go back of 1913. Previous to 1913 some makeshift must be used for the cost-of-living index. Some investigators have used an index of the cost of food. This assumes that the other budget items will fluctuate in the same manner as food. Table IX has shown that this is not true. Paul Douglas has estimated a cost-of-living index for the period from 1890 to 1912 by assuming that the retail prices of

¹ An example of such a computation appears in the *International Labor Review* for October, 1927, pp., 555-560. The comparative real wages for various cities in different countries are calculated by dividing the wages in the building, engineering, furniture, and printing and publishing trades by an index of the cost of certain articles of food. Examples of the results, with London as 100 were as follows:

City	Index	City	Index
Philadelphia	178	Berlin	67
Ottawa.....	156	Madrid	54
Copenhagen	106	Paris	53
Dublin	102	Rome	43
Amsterdam	87	Lisbon	41

commodities varied from their wholesale prices in the same proportion as they varied in the years for which there is a complete record. These estimated prices were then weighted by the percentage expenditures of the main budget items of wage earners' families in the 1901-1902 budget study conducted by the Bureau of Labor Statistics.

When the purchasing power of a group is high, then we may fairly assume that its real income is high, and when the purchasing power is low, that its income is low. Supplemented by additional data on hours and conditions of work, we may come to some conclusions as to the real costs of living, which will, in a general way, be the opposite of the index of the purchasing power.

Several of the budget items offer another indirect measure of real income. The item of "sundries" or "advancement," for example, shows great elasticity. When the percentage of income spent on such items increases, we have an indication of an increase of real earnings. If we observe the same group over a period of years and find that the percentage spent for "sundries" or "advancement" is increasing, we may quite safely conclude that the real income of the group is increasing.

Rowntree suggests a minimum health standard as a means of measuring real incomes. Such a measure may be definitely defined, and remains the same over a period of time. Substitutions may be affected in the things consumed which go to maintain the standard of health, but the measure in itself does not vary. The costs of maintaining it do vary with changes in the price level. As the surplus above this minimum increases, the standard ceases to be a satisfactory standard of real wages. The percentage of the total budget which is required to maintain the minimum health standard is a possible way of comparing real incomes.

The death rate may also be used as an indication of the amount of real wages. For a considerable range in the low incomes, an insufficient income is quickly manifested in a high death rate, while higher incomes show lower

death rates. This measure is only useful among people of low-income groups. Among higher-income groups a curtailment of real income is not manifest in the curtailment of subsistence items, but rather in the items of advancement or sundries. These have no effect on the death rate.

The long-time trend of real incomes has been upward. Most computations have been made for the wage-earning classes. There are few estimates of the earnings for other classes. Table XI gives an estimate of the changes in real wages in the United States and Great Britain. It is computed by dividing the money income by a cost of food index and reducing the results to an index.

TABLE XI.—AN ESTIMATE OF THE CHANGES IN REAL WAGES IN THE UNITED STATES AND ENGLAND¹

Years	Real wages in Great Britain	Real wages in U. S
1790-1799	37	
1800-1809	41	
1810-1819	41	
1820-1829	47	46
1830-1839	47	48
1840-1849	49	56
1850-1859	58	52
1860-1869	63	53
1870-1879	74	77
1880-1889	84	85
1890-1899	98	103
1900-1909	102	103
1910-1919	100	100

¹ HANSEN, A. H., "Factors Affecting the Trend of Real Wages," *American Economic Review*, Vol. xv, (March, 1925), p. 33

The wages of all classes, however, do not maintain the same trends, particularly for shorter periods, and groups change their positions relative to one another. It is a matter of great importance to the particular class in question that its real income maintains pace with the increase of the real income of other classes, and a lagging behind brings a feeling of great privation and misfortune. The accompanying chart shows the manner in which the rela-

tive annual real earnings of certain employed workers in American industry fluctuated between 1890 and 1924. The relation in 1913 is taken as the base. The chart must be carefully interpreted as it shows only changes in earnings relative to the earnings of the particular group in 1913.

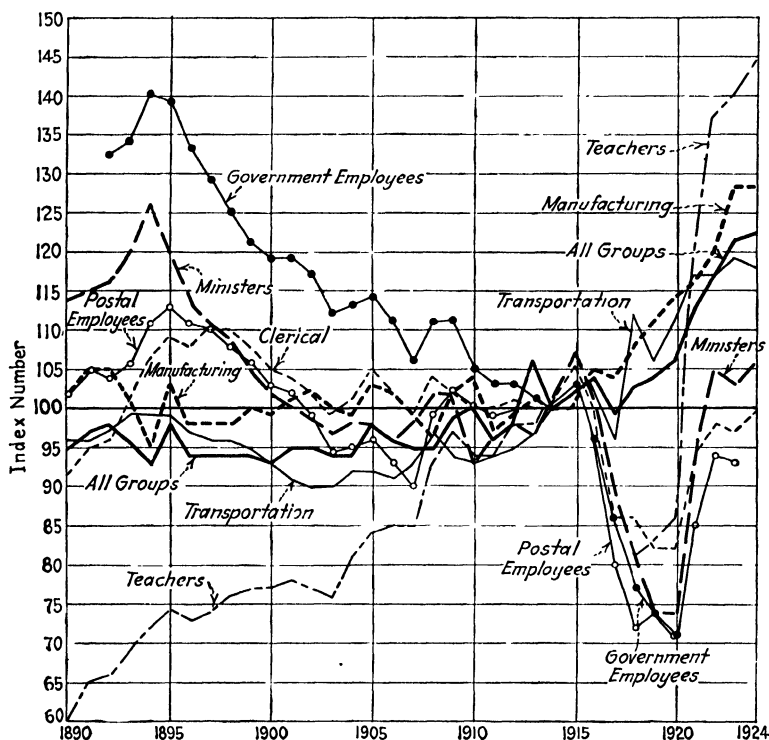


FIG. 5.—Relative annual real earnings of employed workers in American Industry from 1890 to 1924.¹

Thus the line representing the government employees does not mean that in 1892 they were paid much more than the other groups, but that their real wages were high in 1892 relative to their real wages in 1913.

Problems

It is desired to compare the relative increase in the real incomes of the farmers and the city workers.

¹"The Movement of Real Wages and Its Economic Significance." *American Economic Review*, March, 1926 Supplement.

1. What city groups would be comparable to farmers as a class? Should there be more than one farmer class?
2. Outline the problems that would arise in determining the comparable money incomes of the two classes.
3. What difficulties arise in the selection of an index to divide or "deflate" the consumers' income in order to determine his purchasing power? Should the same index be used for both the city and the country groups?
4. When money incomes of farmers and city folk are deflated by a cost-of-living index for city workers, is the comparative income of the farmer understated or overstated during a period of falling prices?

CHAPTER VI

PROTECTION OF THE CONSUMER FROM EXPLOITATION

The economic organization of society around a system of prices permits exploitation of the consumer in two ways: first, when the supply of a particular good is principally in the hands of a powerful group, and a monopoly price is exacted; and second, when the consumers themselves are unable to judge the character of the goods which they are buying.

1. Protection of the Consumer from "Unfair" Prices.—The interest of consumers in monopolies lies in the fact that the price charged by the monopoly is generally higher than the price would have been if competitive conditions had existed in the industry. This is not always true. It is possible that the monopoly might not use its power to oppress the public; it might simply use its power to prevent "cut-throat" competition in the industry, and be content with a normal rate of return on its investment. Such instances, however, are exceptional. It is also possible that the monopoly, through its larger scale of operations, may be able to reduce costs sufficiently so that, even though charging a monopoly price, this price may be lower than the price which would have prevailed with a larger number of smaller competing concerns.¹

This is admittedly the case with such things as telephones or railroads, although it is generally necessary to safeguard the consumers by a regulation of their prices. Monopolies for limited periods of time are granted for copyrights and patents as a stimulus for creative work. Most monopolies, however, are undesirable because of the higher prices charged consumers, and the effects which they have upon other industries. The monopolized industry makes less

¹Cf. MARSHALL, "Principles of Economics," 8th Ed., p. 484.

demand for labor and capital then it would under competitive conditions, and these must find employment in other fields that are open to them. The effects of the monopoly are not, in consequence, confined to the higher prices charged in the monopolized industry, but extend to other fields as well.

Monopolies vary greatly in their completeness, and, in consequence, in the degree of control which they are able to maintain over prices. They range all the way from nearly full monopolies in such fields as railroads, patented articles, and municipal water, gas, or electric supply, to loose "gentlemen's agreements" among the firms in a particular line. In practice, it is difficult to tell when a price becomes monopolistic or the degree of monopoly element that enters in it. There are limits to the degree to which any monopoly, however complete, can raise its price. If the price is set too high, other things will be substituted for the monopolized product; the quantity which can be sold may be decreased sufficiently so that the total profits of the monopoly are lessened, or the enmity and interference of the public may be incurred. Moreover, if profits are large, others will be likely to enter the field and the advantage of the monopoly may be lost entirely.

A producer sometimes not only secures a monopoly, but also an ability to discriminate, or to charge different consumers different prices for the same product. If this power were benevolently exercised a great deal of good might be done, but it will seldom be in the interest of the monopolist to exercise his power in this manner. Monopolies are divided into two classes on the basis of the ability of the monopolist to discriminate among its customers.¹ Where the monopolist charges the same price to each customer, the monopoly is said to be a simple monopoly; and where the monopolist is able to group his customers into separate markets, and charge each group a different price, the monopoly is said to be a discriminating monopoly. A discriminating monopoly will yield the monopoly a larger

¹ Cf. Pigou, A. C., "Economics of Welfare," 1st Ed., pp. 240-256.

profit than a simple monopoly, and, in consequence, the monopoly will classify its customers and charge each class a different price wherever possible. The clearest examples of discriminating monopolies probably occur in the case of "dumping." This consists in selling in a foreign market below the price charged to domestic consumers, and frequently below costs. Thomas Edison has sometimes been credited with originating the practice.¹ His plant was operating at only a portion of its full capacity. Experts estimated that 25 per cent more lamps could be turned out with an increase of expense of only 2 per cent. In consequence, he began selling abroad at less than the cost of production of foreign producers, utilized more of his plant capacity, and increased his profits. He would not have fared so well had he tried to achieve the same end by cutting the price at home, since he would have had to cut the price on the four lamps he was already selling in order to sell the additional one. Where the producer sells a product which is homogeneous and easily transported, discrimination is not easy; but where the consumer buys commodities or services which are delivered to him directly, and are not easily transferable, discrimination is probable.

There are two methods by which monopolies may be controlled: indirectly, that is, by destroying them; or directly, by allowing them to exist, and fixing the prices at which the product is to be sold. We have endeavored to control monopolies in this country chiefly indirectly, by maintaining competition in the particular industries. Some industries, however, are "natural monopolies"; that is, the cost of production under a monopoly is fairly assumed to be less than it would be under competition, and in these, the direct-method control is followed. Public utilities are examples. The task of regulation is to give the consumer as much of the saving as justice and expediency permit, and see that he is at least no worse off than he would have been under competition.

¹ CLARK, J. M., "The Social Control of Business," p. 398.

The method of indirect control consists in the prevention of combinations or the dissolution of combines already in existence, and the maintenance of the conditions of fair competition by the prevention of unfair business practices. As long ago as 1880, the Sherman Anti-trust Law was passed, forbidding, in the field of interstate commerce, all contracts, combinations, or conspiracies in restraint of trade, and all monopolies or attempts to monopolize. This type of legislation was strengthened somewhat in 1914 by the passage of the Clayton Act, and the Federal Trade Commission Act.

The chief instances of outright dissolution by the courts have been in the cases of the Standard Oil Company and the American Tobacco Company. The Standard Oil Company was simply broken up into a number of smaller concerns in which those having stock of the holding company received shares, but in later cases greater efforts have been made to see that the stock was put in the hands of really separate groups. "Consent decrees" have been more numerous than judicial dissolutions. Examples of these are the case of the International Harvester Company where the company agreed to sell certain of its lines to independent groups, and the "Packers' Consent Decree" where the five largest packers were forbidden to own public stockyards-market companies, stockyard-terminal railroads, stockyard-market newspapers, or public cold-storage warehouses (except where essential for their meat business), and from engaging in the distribution of a large list of foodstuffs not directly connected with the business of meat packing.

Even more important than the control exercised through the courts is the growing endeavor to control unfair practices in trade which are designed ultimately to do away with competitors. Unfair trade practices include the use of such devices as (1) cutting prices below cost in a locality in which competition appears; (2) discriminating in favor of merchants who agree to refuse to handle or discriminate against competitors' products; (3) the use

of threats and other forms of intimidation; (4) the employment of spies to ascertain the details of competitors' business transactions; (5) the production of special brands of goods, sold at very low prices for the purpose of driving competitors' products out of the market; and (6) the use of subsidiary companies as bogus independent concerns. Not all of these practices are necessarily illegal. Some, such as price cutting, are common in competitive trade, but when used by large combinations they become "unfair" because of their purpose.

The most important legal power in the control of trade practices is the Federal Trade Commission.¹ The body is not set up as a protection for consumers, although it functions in a manner allied with their interests, but rather as a protection for manufacturers and tradesmen. Before the existence of the Federal Trade Commission, it was possible, for example—and of course done—to sell imitation linoleum as genuine linoleum because the practice was not directed against any particular competitor, and there existed, in consequence, no sufficient interest to prevent the fraud. Such practices are, in part at least, caught and suppressed by the action of the Commission. The Commission never steps in of its own accord, but only when someone protests. These protests are nearly always from competitors since they are the only ones who are likely to find it worth while to incur the trouble and expense of making a complaint. If the practice is one which injures the consumer alone, and which the bulk of the trade indulge in, the practice is unlikely to come before the Commission.

After a complaint has been filed, the Commission proceeds much like a court. Evidence bearing on the claims made for the article, its performance, and composition is presented and passed upon. The Commission then hands down its decision based upon the majority vote of its members. The particular dealer is either ordered "to cease and desist" from the particular practice, or permitted to continue.

¹ "Functions of the Federal Trade Commission," published by the Federal Trade Commission, 1922.

The decision, together with the report of any scientific investigations made, was, until recently, published. Recently, there seems to be an increasing tendency on the part of the Commission to deal quietly with the offending firms, and to permit them to cease unfair practices without making them public.

Besides these governmental agencies, there is a growing control being exercised by business itself through the development of codes of business.¹ The economic groups which have the most explicit and effective codes are the professions, chiefly the legal and medical professions. These codes are written, with organizations behind them able to put considerable force into their observance. So, too, there are codes of scientific research, and of the teaching profession, codes for engineers, architects, accountants, and less exact codes for dentists, brokers, advertising agencies, real estate dealers, and a considerable number of strictly business occupations.

The industries which operate more efficiently under monopoly control than otherwise are controlled directly, at least to some extent, by the government. The industries in which the consumer is principally concerned are the so-called "public utilities." The difficulty in their control lies principally in the determination of the precise rate to be set for the service. The rate should not be set too high, since the consumers then pay more than necessary for the services. If the rate is set too low, then earnings of the company will be small, the capital of the company may become inadequate, enterprise will be discouraged, and the service and equipment will run down. This would also be disadvantageous for the consumer.

The goal that is aimed at under this control is the competitive price, the price that would have been arrived at had other things been the same but the monopoly element absent. The price should be such as would yield competitive earnings for this type of enterprise. Quite obviously, this is a difficult price to determine. It involves

¹ See CLARK, J. M., "Social Control of Business," pp. 223-238.

the determination of both the rate of earnings and the amount of capital upon which these earnings are to be paid, both of which are controversial matters. The market value of the concern cannot be taken, since the market value of any business is the present worth of its anticipated earnings at the competitive rate of interest, and the earnings quite obviously depend upon the rates which the business is allowed to charge. Capital value for purposes of rate control is thus quite different from capital value for other purposes, say taxation. It must, in some way, have reference to the amount of money invested in the past. This is almost impossible to obtain in established businesses since the capital may have been watered and the books manipulated in such a way as to disguise the real facts. It is customary, in consequence, to take either the estimated "cost of reproduction" of the plant, or a value ascertained by a direct physical valuation, and add to this a more or less arbitrary allowance for investments, for good will, promotion expenses, patent rights, and so on.

The final decision as to the reasonableness of a rate rests with the courts. Rates are usually established, however, by public authority. There are several commissions in the federal government which deal with things coming within their power. The Interstate Commerce Commission, for example, regulates the rates to be charged by the railroads in interstate business. Each state also has commissions which perform similar functions for matters lying entirely within the state.

The establishment of prices by governmental authority takes place only in industries of a monopoly nature. The interests of the consumers of other products or services are sufficiently protected under the operation of full competition. A regime in which all prices were established by governmental authority would be undesirable. Unless the price established by the government were the same as the competitive price, there would be an excess of product over the amount demanded at that price, or less product supplied than buyers wished to buy at that price. If the

established price were lower than the competitive price, consumers would try to buy more of the product than was produced and some would have to go without. If the established price were higher than the competitive price, producers would produce more than could be sold at that price and some of the product would remain unsold. Only under an elaborate, and probably unworkable, system of taxes and bounties would it be possible to set up a regime in which there could conceivably be a better arrangement of prices than under the purely competitive system.

Consumers are often exploited because they lack knowledge of the market, or are unable to judge the qualities of goods offered to them there. The wide range of purchases which the consumer is called upon to make, and the limited time at his disposal for studying each of these purchases precludes any close knowledge of the prices or qualities of any one of them. Furthermore, many of the differences in the qualities of goods are not directly visible and are revealed only after elaborate tests.

Very little has been done directly to insure consumers adequate knowledge of the proper price for an article. During the war, lists were prepared of "fair" prices for a considerable number of articles but this activity has been dropped. The consumer is left to secure his own information, which he receives principally from the merchants whom he patronizes or from the advertisements of others. There are a number of times when both consumers and producers would gain by a more adequate knowledge on the part of consumers. In the case of seasonal crops, for example, consumers need to be instructed as to when is the proper time to buy for canning or preserving, or when the crop is particularly low in price or exceptionally high in quality. They need this information in addition to price information. Some large cooperatives and trade associations are taking steps in this direction.

2. Protection of the Consumer from Inferior Quality.—

Where consumers are unable to judge the qualities of goods, they are open to exploitation in two ways: first, through the

adulteration of products; and secondly, through the misrepresentation of the powers or services of a particular good by those selling it. The consumer can be protected under such circumstances only by the development of standards, together with their enforcement, and a dissemination of knowledge of the precise meaning of the standard as far as the performance or character of the good is concerned.

The adulteration of products extends through nearly all lines which the consumer buys. It is practically forced upon manufacturers by competition in all places where the consumer is unaware of the true quality of the goods, for otherwise the competitors who adulterate will undersell the non-adulterator. It is quite probable that adulteration proceeds even further in the necessities of life than in luxuries, for two reasons: first, because the large and steady demand for necessities offers a large return for those who can adulterate their product without detection; and secondly, because expenditures for luxuries are usually in larger single amounts than those for necessities and, in consequence, the consumer devotes more attention to them. A typical example of such adulteration may be found in the case of some cigars. When first put on the market, these particular cigars are of superior quality, and attract many smokers. After a considerable clientele has been built up, the quality is gradually lowered, but at a rate imperceptible to the ordinary smoker. In this way, the decrease in quality may be considerable, much more than could possibly be made at once without detection. After the sales have gradually fallen off, the same plan may be worked with a new brand. Similar plans are attempted with many commodities and are extremely difficult to detect.

The federal government makes an attempt to protect the consumer in the case of food with the Federal Pure Food and Drug Law, the Meat Inspection Law, and various acts standardizing containers, weights, and measures. These laws, of course, deal only with articles handled in interstate commerce. Things which are entirely intrastate

must be locally regulated. There are pure-food laws more or less like the federal law in all the states, and, in addition, many municipalities regulate certain articles through their own ordinances.

The Federal Pure Food and Drug Law (1906) is the most important of these measures. It endeavors to protect the consumer by forbidding the adulteration and misbranding of food and drugs which enter into interstate commerce. A product has been "adulterated" if it has been damaged or rendered inferior by mixing a substance with it, by substituting another substance, by abstracting any valuable constituent, by so treating as to conceal inferiority, by adding a poisonous or deleterious substance, or if it contains any substance unfit for food. A product is "misbranded" if the package bears a false or misleading statement, or is falsely branded as to its place of manufacture, if it is in imitation of, or offered for sale under the distinctive name of another article, or if it is labeled or branded so as to deceive the purchaser. If it is in package form it is also misbranded if the quantity of the contents is not marked in terms of weight, measure, or numerical count, or if the package or its label bears any false or misleading statement. This protection is essential but it is important that it be carried even further. Thus, while it is no longer possible to prepare a soothing syrup containing morphine to keep the baby quiet, the labels describing the contents of many foods and drugs, even though true, tell us little regarding their relative merits.

Aside from food and drugs, the consumer has little protection against these practices. The Federal Trade Commission offers some protection against misbranding and adulteration when these are not general practices of the trade. The difficulty, as we have pointed out, is that, ordinarily, cases must interfere with the sales of some competitor before they reach the Commission. Certain trade associations have indicated certain articles in their field capable of passing specific tests. For example, the fire underwriters have established a thoroughgoing

service, testing and certifying appliances involving fire and casualty hazards. A set of specifications, technical reports, and a regular listing of approved products is maintained. "Approved by the Underwriters Laboratories" implies protection with reasonable certainty.

There are a considerable number of similar agencies in other lines of somewhat lesser excellence, but they operate chiefly for industries, and little for consumers. There are few examples of such agencies which serve the consumers direct. The Educational Buyers' Association, for example, serves large consumers, such as universities, analyzing particular makes of articles, assembling the data, and presenting it to their clients so that they may more readily secure the greatest value for their money. Certain "institutes" are also operated, at least nominally, in the interests of the consumer. For example, the Good House-keeping Institute, and the New York Herald Tribune Institute. They usually function by "guaranteeing" the articles advertised in the journals supporting them. They catch the obvious frauds, but this is about all. One may be sure that the article possesses some merit, but cannot be sure that he is not grossly overcharged for it. Such institutes cannot represent the consumers in an unbiased manner since they derive their subsistence from the advertisers.

It is desirable that these beginnings in consumer protection be extended much further. Standards should be worked out from the viewpoint of the consumer, and the labeling of goods in terms of these standards required for as many things as possible. This would not only offer him much needed protection in the goods which he purchases, but would also greatly facilitate the solution of his problem of what to buy, and thus insure a better satisfaction of his wants. It would make it unnecessary for him to be an expert judge of the qualities of many of the products which he purchases. He could, for example, find that a certain grade would fulfil his particular requirements, and be able to call for his particular grade or quality without needing

the expert knowledge to determine whether the article fell in this particular grade or class. This would result in a great saving of time and effort, and leave the consumer more time and energy for leisure or for work in his special field. Moreover, it would eliminate the competitive advantage of the quality cutter, and give a greater advantage to the producer who could supply goods of standard quality at the lowest price.

There is also much to be gained from a reduction in the variety and qualities of the goods which the consumer purchases. While one would not care to see every woman wearing the same kind of shoe, yet there is no reason why the sizes should not all be standard. At present, for example, one maker's number 9 may equal another's number 10. Again to quote from a recent work:¹

A housewife needing a sewing machine needle in an emergency might as well look for one in a haymow as on a neighbor's machine. Such needles are made in nine diameters—from 65/1,000 to 81/1,000 inch; and in lengths varying by as little as $\frac{1}{32}$ inch. A variation of a thousandth of an inch in diameter will keep the manufacturer from filling an order from stock. Some size numbers run from 0000 to 10, others from 1 to 8, others from 5 to 27. In some systems, number 5 is the large size, and in other systems the small size. Worse still, no one knows except by experience what needles will fit what makes of sewing machines.

These examples could be multiplied many times. Many sorts of the same product increase manufacturing costs, retailing problems, and the difficulties of choosing by the consumer. It is a great convenience to know that the electric-light bulb which I buy will fit the socket in my electric light, and it would be equally convenient if I could buy a new handle for my bathtub faucet without having to supply my plumber with the old one, and he to send in a special order after searching through several jobbing catalogues. The Chamber of Commerce of the United States has estimated that one-quarter of all industrial effort in America is wasted because of irrelevant overdiversification of styles, types, and sizes. A world of

¹ CHASE and SCHLINK, "Your Money's Worth," p. 174.

entire uniformity would be a monotonous place. With hats, furniture, clothes, and houses all the same, we would count the increased product we would gain as dearly paid for. Standardization does not necessarily mean this. It should mean simply the determination and enforcement of standards which will enable the consumer to judge and fit the things offered in the market more easily and exactly to his needs. There is need for an organization or government department that will seriously devote itself to this task. Standards should be worked out following research on consumer requirements, rather than on the convenience of productive methods. Specific goods should be tested against these standards and the findings published. Manufacturers and sellers should be required to label their goods conspicuously in terms of these standards.

An idea of the savings that might accrue to the consumer from such an organization may be grasped from the savings attributed to the work of the Bureau of Standards. This is a department in the United States Department of Commerce, which performs tests on industrial commodities and articles purchased by the federal government. The present staff includes some 800 scientists and technicians. In 1925, some 180,000 tests were performed, covering, among other things, electric batteries, lamps, clocks, watches, insulating materials, fuels, lubricants, optical instruments, paper, leather, rubber, textiles, brick, cement, sugar, and gasoline pumps. The Bureau is estimated to save the government \$100,000,000 a year on the purchase of its supplies and equipment, and to save particular industries a great deal through its work on simplification and standardization. It is, for example, estimated that its work on builders' hardware, which resulted in the reduction of 100 non-standard finishes to 25 standard finishes, has saved the industry around \$10,000,000 a year.¹ All this, of course, benefits the consumer indirectly, but there is, in addition, the need of an organization which will approach

¹ *Ibid*, p. 202.

the problem from his viewpoint and place the results before him in such a way that he can use them.

Problem

The following is an extract from Docket 270 of the Federal Trade Commission, May 27, 1919.

"That respondent, C. L. Chase, trading under the name and style of Chase Shoe Co., and having his principal place of business at 123 Nicollet Avenue, Minneapolis, Minnesota, was on the fifteenth day of April, 1919, and during a period of more than 6 months prior thereto, engaged in the business of selling shoes and other footwear, at retail, in commerce among the several states of the United States; that during said period other persons and corporations were engaged in selling shoes and other footwear in interstate commerce in competition with respondent

"That in the course of his said business and during the period aforesaid, respondent circulated in commerce among the several states of the United States catalogues and other advertising matter which contained certain statements respecting the character of respondent's business and which were in effect as follows.

"1. That respondent was a shoe manufacturer.

"2. That respondent was a shoe manufacturer's distributor.

"3. That shoes sold by respondent passed directly from the factory to the purchaser.

"4. That respondent's only thought was 'to produce the best shoes in the world for the money'

"5. That respondent's life work has been the study of manufacturing and distributing shoes to the consumer.

"That during the period aforesaid respondent did not, at any time, manufacture shoes nor act as a distributing agent of any manufacturer of shoes, and that by reason thereof the statements above described were false and misleading, and had the effect of deceiving and misleading customers of respondent and other members of the public.

"Order to Cease and Desist

"IT IS ORDERED, that respondent, C. L. Chase, trading under the name and style of Chase Shoe Co., his agents and employees, cease and desist from circulating in commerce among the several states of the United States, in catalogues, in advertising matter, or otherwise, statements to the effect that respondent is a shoe manufacturer, or that respondent is a shoe manufacturer's distributor, or that shoes sold by respondent pass directly from the factory to the purchaser, or that respondent's only thought is to produce the best shoes in the world for the money, or that respondent's life work has been the study of manufacturing and distributing shoes, or other false and misleading statements of similar tenor and effect."

1. Prepare a statement showing the consumer's interest in this case and how the action of the Commission affected it.

2. Does this case involve principally interests of competitors or of consumers?

PART II
THE CHOICE OF GOODS

CHAPTER VII

THE CHOICE OF GOODS

We know very little of the causes leading to the choice of goods. It is quite generally accepted that we start life with a certain inheritance of primitive fundamentals which are called "instincts." There is no general agreement as to precisely the things which constitute these instincts. Each book on psychology contains a list of "instincts" and all the lists differ. Instincts comprise such things as hunger, fear, rage, sex, gregariousness, and so on. Upon these instincts more complex reactions are built up from the experience of our environment. The learning process begins so early that it has been nearly impossible to differentiate between the part of our reaction which is inherited and the part which is environmental. These instincts are, without doubt, of considerable importance in laying out certain broad lines of our expenditure, but they have little to do with our selection of specific commodities, the latter are primarily the results of our environment. These selections seem to be made principally because of habit, impulse, or imitation, and only slightly upon the basis of any rational calculation.

1. The Psychological Basis of the Analysis.—The scale of commodities which a person consumes is built up in a more or less haphazard manner. Some of the commodities are acquired by a trial and error method. The consumer comes to expect a certain amount of satisfaction from a commodity from his previous experience with it. Certain commodities are included because other people are observed to be consuming them, and we think we shall derive somewhat of the enjoyment that others seem to derive from their consumption. Certain things which are widely consumed and whose omission in our consumption would

make us conspicuous are also included. These are often consumed with but little thought of the satisfaction which the goods themselves yield. For example, many of the articles of our apparel are uncomfortable, and, left to ourselves, we would not choose to wear them, but in order not to appear conspicuous, we comply with the whims of society.

There is no common quality of goods which makes them desirable such as color, or weight, or forms. The desirability is solely in the reaction of the individual to the good. It depends upon the individual and his environment rather than upon the good. For example, certain people like olives, and others do not. The differences are in the individuals and not in the olives. The desire which a person has for a *good* because he believes that it will satisfy a want is called "utility" by the economist. Since this utility is purely psychic, we have no direct measure of it. We can only observe the effects as they become expressed in price, and, from these, infer certain things regarding the utility of goods. Thus, if we observe that a man is in doubt on which of two things to spend a dollar, we may infer without great error, that they have about equal utility to him, or if he buys one in preference to the other, that the purchased good possesses the greater utility to him.

It is quite probable that each person derives quite a different satisfaction from the consumption of a particular kind of good. This precludes any comparison of the satisfactions derived from the consumption of a good or a group of goods between different persons, or of any total or social summation of satisfaction. Moreover, since environment is constantly changing the individual, a person's desires at any one time may be quite different from those he has at some other time. There is no unit by which an individual can compute the absolute amount of satisfaction which he derives from a good. This means that we cannot even sum up or total the satisfactions which a person derives from his income. A person calculates this satisfaction in terms of other goods. Thus it is impossible for me to tell

you the satisfaction I derive from the consumption of a piece of candy, or even calculate it myself except in terms of other goods. I can, however, prefer the candy to a package of cigarettes or three packages of gum.

Many psychologists and economists object vigorously to the notion that individuals are at all rational in their attitudes toward goods; that is, that they make conscious choices among goods on the basis of the utility which they have for them.¹ Men's motives, they say, are little understood, very complex, and cannot be accounted for in hedonistic terms. Human behavior is not rational but is determined largely by the environment or circumstances in which man happens to be placed. It is a product of an unstable and irrational complex of reflex actions, impulses, instincts, habits, customs, and fashions. People do not make fine and precise calculations respecting the probable satisfactions to be obtained by the purchase of various goods. They are influenced by suggestion, advertising, accident, and many other factors. Their choices and price offers are determined more by custom than by the relative marginal utilities of goods.

The truth of these statements cannot be denied. They hold true within considerable ranges of our expenditures, and, in consequence, the notion of the comparison of utilities cannot be pushed very far. But at the same time, men are not completely irrational in the sense in which the man in the street uses the term. He does learn and build up a system of expenditures. He does select certain goods and choose in the ordinary sense of the word.

These are serious limitations to the development of a satisfactory theory of consumption, but they do not completely destroy the usefulness of the concept of utility.

¹ Cf. WATSON, J. B., "Psychology from the Standpoint of a Behaviorist," ALLPORT, F. H., "Social Psychology;" VEBLEN, T., "The Limitations of Marginal Utility," *Journal of Political Economy* Vol. 17, pp. 620-636; CLARK, J. M., "Economics and Modern Psychology," *Journal of Political Economy* Vol. 26, pp. 1-30 and pp. 136-166; MITCHELL, W. C., "Human Behavior and Economics," *Quarterly Journal of Economics*, Vol. 29, pp. 1-47.

There still remain certain relations which may quite safely be stated, and which lead us to concrete and useful conclusions. The first of these is the principle of diminishing significance, or as it is more often called, of diminishing utility. This principle is simply that where a good is consumed, or its consumption is contemplated in varying amounts, each unit of that good will generally possess less significance relative to other goods, the larger the amount. It is a general principle, verifiable by observation of the happenings in the market place. The principle of diminishing utility applies to the consumption of a good in successive increments at a particular period of time. Thus as oranges are eaten successively there is less and less utility for each successive orange.

These are, however, limited applications, and the more important application of the theory is to our consumption when considered over a period of time.¹ When consumption is considered for a considerable period of time rather than for a particular short period of time, things are consumed at certain rates. As these rates of consumption of particular goods are varied, there is a change in the significance or utility of each unit of the good, and, in general, the utility per unit at the higher rate is less than the utility per unit at the lower rate. The statement, of course, includes the assumption that there has been no significant change in the character of the consumer or acquirer during the period.

2. The Effect of Price on Choice.—Nearly all the goods used by the consumer are purchased in the market and since the consumer has a limited income, he must choose between these goods, and apportion his expenditure among various lines. He cannot consume all. In consequence, he buys some goods at the ruling prices, and eliminates other goods at the ruling prices. It is quite evident that the consumer is influenced in his purchase by the price of these particular goods. We observe that if the price of a

¹ Cf. MILLER, H. E., "Utility Curves, Total Utility, and Consumers Surplus," *Quarterly Journal of Economics*, Vol. 41, pp. 292-316.

particular good drops, more is likely to be sold; and if it rises, less. These reactions may not be immediate, but for the market as a whole are certain. Within a considerable range of price, and depending upon the particular good and the period of time considered individual consumers do not pay a great deal of attention to changes of price. They find from experience about what this range may be expected to be, and it is only when prices lie outside this range that any considerable thought is given to the matter. For example, a man may have come to consider from \$8 to \$10 as his range for shoes in the market. He may give no thought to paying either \$8 or \$10 for a pair. He has come to expect to buy shoes for approximately that price. If he should find shoes selling for \$15, however, he will consider other courses of action. He may decide to make the old shoes last a little longer, or buy the new shoes with the expectation of using them more carefully than the old ones have been used.

The operation of the principle of decreasing significance is responsible for the variety of things which we find an individual consuming.¹ The consumer is interested in deriving the largest possible satisfaction from the expenditure of his income. If he spends an excessive amount on one thing, he derives less satisfaction from that expenditure than he would if he had spent a portion of it for other things, because as he expands his consumption of this particular thing, its relative significance per unit decreases, and his dollars, in consequence, buy less satisfaction. He discovers that if he spends too much on this one particular line that he will not have enough to spend on other lines, and he will feel quite definitely the lack of these goods. He learns with some definiteness the approximate amounts that can be spent on each thing. If a person has a fairly regular income, he is taught by this experience the possibility of buying a certain amount of satisfaction in the market from each dollar which he spends. This provides him with

¹ Cf. SEAGER, H. R., "Principles of Economics," 1st Ed, p 74.

a crude measure for judging the desirability of purchasing goods.

In order to derive the maximum satisfaction from his income, the consumer endeavors in his haphazard way to get the largest possible satisfaction from each dollar. This he does through his apportionment of expenditures as we have indicated. If one of the goods which he has been purchasing drops in price, his dollars will purchase more satisfaction in this line of expenditure than formerly; and if the decrease has been large enough to draw his attention, he will expand his consumption. The principle of diminishing significance, depending upon the rate of decrease, sets a limit to this expansion since as he consumes more of this single item its unit importance decreases. Through the operation of this principle, then, a point is reached where his dollars purchase about as much satisfaction for him as they would if he had expended them for other goods. His purchases, on the contrary, would be restricted if the price of the article rose. An exception to the general rule—that if a large quantity of a particular good is to be disposed of in the market at a given time, the price must be lowered—is found in certain goods where the customer is unable to judge the quality of the goods directly, and takes the price of the article as an indication of its quality. It frequently happens with these sorts of commodities that more can be sold at the higher than at the lower price.

There are a great many difficulties in balancing these expenditures with any degree of fineness. This fact appears particularly in large and small units of expenditures. The comparison of a package of cigarettes with a rain coat strikes one as foolish. No consumer makes such comparison directly. Selections between articles of nearly the same cost are quite readily made, but not so easily between large and small units. Another difficulty arises in fitting goods which yield many different services, such as automobiles or pianos or radios, into our scheme of expenditure. It may happen that we would quite willingly purchase a

few of the services of these articles if we could buy them separately, but if we have to purchase the entire bundle of services contained in the good, we may have to sacrifice so much in other goods that we do not care to do so. This is, in part, overcome through the hiring of the services of goods. I may, for example, be quite willing to hire a taxi to transport me home when I come home late at night from the theater, and find it raining. Yet a car of my own might be beyond my reach in expenditure. This one service is desirable enough to appear in my scale of purchases, but that of a ride to an afternoon picnic or the ball game is not. For many things, however, this hiring of individual services is impossible and the whole group of services must be purchased or none may be had.

The extent to which expenditures are balanced and compared is difficult to determine, and undoubtedly differs with individuals. For most of us it is probable that a great many of the necessary purchases are made with no consideration of other alternatives. They are largely a matter of habit. The usual consumer takes little account of the constant minor fluctuations of prices in the market. It would be impossible for him to keep informed of all of them. Within a considerable range of changes of price, in consequence, he continues to buy approximately the same amounts. Thus, an individual merchant might raise the price of sugar considerably before it became reflected in decreased sales. Sometimes, on the contrary, the price increase is so widely advertised that there is a considerable slump in sales followed by a gradual increase as it ceases to hold the attention of many people. Dealers of milk in Minneapolis, for example, observe that when the price per quart is increased, there is a considerable decrease in the quantity taken. This decrease continues for about two weeks and then the quantity taken rises gradually to about the former amount. If the price changes involve items of considerable amount, the consumer must, of course, rearrange his expenditures with a view of maintaining the proper balance along the various lines.

The importance of a dollar to an individual depends not only upon the nature of the person, but a great deal upon the number of dollars which he has.¹ The loss of a few dollars from the income of a poor family may cause intense suffering, while the same loss would be scarcely felt in the income of a rich man. We say, in consequence, although always recognizing that there are a great many exceptions, that the dollar has a much greater significance to the poor man than to the rich man. It is interesting to note that divisible articles, such as meats, are varied in smaller units of size and price in shops appealing to the low-income groups than in shops catering to those with higher incomes. The dollar itself may not be a sufficiently large unit to impress maladjustments in expenditure upon a person. This depends upon his income. The larger his income the larger must be the maladjustment before it attracts his attention. A student may weigh the possibility of consuming a piece of pastry at the noon meal against a larger dinner in the evening, while the business man may give no thought between paying either \$75 or \$100 for a coat.

3. Some Special Problems.—Articles which last for a considerable period of time and cost large amounts may cause great inconvenience in purchase. If the payment must be made in a lump sum it might, for example, demand more than the current income of the family. The shorter the period in which the payments are concentrated, or the larger they are, relative to the income, the more burdensome they are likely to be. For example, the sacrifice involved in the purchase of a pair of shoes by a really poor family is more than is readily realized by those better situated. If it must be taken from the food for a single week, the sacrifice will be more than it would be if spread over several weeks. It follows directly from the principle of diminishing utility that the sacrifice of other utilities necessary for the purchase of a commodity costing a considerable sum, is much less if the same amount is taken

¹ Cf. MARSHALL, A., "Principles of Economics," 8th Ed., p. 95.

in small sums over a period of time rather than in one lump sum. The system of instalment buying is a result of this situation. Although we generally spend more in total in instalment payments, the inconvenience which we suffer may be less through the spreading of our payments over a considerable period of time. It is not true that instalment purchases are always desirable. At the same time that they open the possibilities of wise expenditures to the wise, they also provide a dangerous means of foolish expenditure to the foolish.

The sacrifice of other goods necessary for large purchases often prevents the purchase of an article even though the single purchase of successive services of the article may be made. Thus, a poor family might, with great economy, purchase coal by the ton if they had the money which they will subsequently spend on coal at the beginning of the period. Since they do not have this money at the beginning of the period, they must adopt the more expensive procedure of purchasing it in smaller lots. It has often been said, and quite correctly, that economy is a luxury of the rich.

Another general phenomenon that appears in the choice of goods by the consumer is his preference for present goods over future goods of like kind and quality.¹ When the consumer is presented with the alternative of having a good now or waiting until a later period, and the later situation is expected to be essentially the same as the present one, he invariably elects to have the good now. Future events appear less important than present ones. The longer the period, the greater the sum of goods in the future necessary to balance in the consumers' mind a certain sum of goods now. These conditions are demonstrated by observation, and operate in typical cases. They do not hold for every individual, nor for the same individual in all cases, but, in general, they are true. They do not depend upon any particular psychological hypothesis. The

¹ Cf. FETTER, F. A., "Economic Principles," pp. 235-261; PIGOU, A. C., "Economics of Welfare," 1st Ed., Part I, Chap. II

extent to which men undervalue the future with reference to the present is spoken of as their time preference. Those who prefer most strongly goods now rather than in the future, have a high rate of time preference. Those who would be almost as willing to accept goods in the future as now, are said to have a low rate of time preference.

The practical effect of this inverse telescopic faculty of looking at things is that persons sacrifice large quantities of goods in the future for the sake of smaller quantities of goods now. This may reduce very materially the total quantity of goods which an individual is able to consume during his lifetime. The general social result is that the creation of new capital is checked, and people are encouraged to use up existing capital to such an extent that great future advantages are sacrificed for smaller present ones.

It follows from the principle of diminishing utility and the endeavor of the consumer to derive the largest possible satisfaction from his income, that whether he buys a commodity or not, and how much he buys depends upon: (1) the size of his income, (2) the relative expected satisfactions and his habits in buying commodities, and (3) the prices of this and other articles. The quantity of a particular commodity which a particular consumer will buy, the other factors unchanged, will vary with the price of the commodity. The quantity of the good which a consumer will take off the market at a given price is his individual demand for the commodity. The quantity of goods which buyers stand ready to take off the market at a particular price, and which is the sum of the individual demands at that price, is called the demand at that price. At any one time there is a whole series of demands for the good at the various prices. These demands may be arranged in the form of a table showing the different quantities that will be taken off the market at various prices. Such a table is commonly known as a demand schedule. The demands may be expressed graphically by means of a curve, known as the demand curve. Both of these express the demand situation at a particular period of time. Demand in the

Problem

The following data are of potato prices in the Twin Cities and production in the 27 late-crop states

Year	Price, 200 lb. at Minneapolis and St. Paul	Production 27 late-crop states, million bushels
1902	1 34	251
1903	2 81	223
1904	1 18	302
1905	1 80	227
1906	1 56	271
1907	2 00	258
1908	2 59	232
1909	1 20	319
1910	1 95	274
1911	3 05	247
1912	1 31	345
1913	2 07	272
1914	1 40	348
1915	2 03	278
1916	3 94	218
1917	1 88	319
1918	1 80	301
1919	3 65	275
1920	1 40	310
1921	2 24	303

Plot these data on semilogarithmic paper, single deck, with years on the base. Draw a straight line trend for each series, free hand or with a straightedge. Read the actual observations as percentages of these trends. This can be done directly by measuring the distance from the trend line to the actual observation and reading this distance on the scale at the left. Where the actual observations are *below* the trend line, mark the distance down from the *top* of the scale at the left; the result gives the percentage the actual observation is of the trend line. Where the actual observation is *above* the trend line, read the distance from the lower left-hand corner up. The figure is the per cent above 100 which the actual observation is of the trend line.

Compute these percentages for each pair of production and price figures and plot on ordinary graph paper. Draw a curve through these data. Compare your results with the curve for potatoes given in the chapter.

CHAPTER IX

STUDIES OF FAMILY EXPENDITURES

We are able to gain some information on the manner in which people spend their income from the studies of family expenditures. There have been a great many of these studies made, both in this country and abroad. These studies can seldom be directly compared. They have been made in many different ways, and include families living under quite different circumstances. Moreover, the families which have been included in the studies usually have been selected in a particular manner and for a particular purpose and are unrepresentative of the community as a whole. When the data of these studies are arranged in certain forms, however, there is a marked similarity among them. This similarity appears most strongly in the changes in the proportions of the income expended in the various lines of expenditure as the incomes become larger, and the changes in the proportions of the income expended in the various lines of expenditure as the family changes in size. We may be quite sure of our conclusions in these respects since they appear in all the data despite their diverse characters.

1. Some Early Studies.—Some of the studies of family expenditures are quite old. Sir William Petty, for example, in 1672, used estimates of the purchases of the average workingman's family in judging the possibility of trade with Ireland. David Davies,¹ an English clergyman, in 1787, collected budgets from 133 families in 28 different communities in an endeavor to find why two-fifths of his parishioners were receiving aid from the parish. Another

¹ DAVIES, DAVID, "The Case of the Laborers in Husbandry," Bath, 1795

early English study was by Eden,¹ in 1792, on social conditions. None of these early studies used statistical analysis or generalizations.

The first really significant expenditure studies are those of a Frenchman, Frederic Le Play.² They are in the form of monographs presenting in minute detail the facts regarding the financial and domestic conditions, both past and immediate, of a particular family. They are so exhaustive and so remarkably well done, that, even now, a person can get a vivid impression of the circumstances and manner of life of these individual families. Le Play was a mining engineer who spent his vacations living with some typical family in some part of the world. Individual cases were recorded from such places as France, Belgium, England, Germany, Russia, Italy, Turkey, and Africa.³ This method of careful observation of selected cases is valuable only when the cases are typical and the investigators are highly skilled. These conditions are rarely found, and more reliance is to be placed generally upon other methods.

The first use of what may be termed the "statistical method" in expenditure studies was made by Ernst Engel, in 1857.⁴ Engel was then head of the Statistical Bureau of Saxony. His contributions were in the classification of the expenditures under systematic headings, arranging his families by income levels, averaging the family totals for each item of expense for each income level, and getting expenses per capita for each heading, and then translating these average figures into the form of percentages of total expenditure. A summary of his data is reproduced on the following page:

¹ EDEN, SIR FREDERICK MORTON, "The State of the Poor," London, 1797.

² LE PLAY, FREDERIC, "Les Ouvriers Europeens," Paris, 1855-1879.

³ A sample monograph is included in the appendix to CHAPIN, R. C., "Standard of Living among Workingmen's Families in New York City, 1909," p. 326.

⁴ ENGEL, ERNST, "Productions and Konsumptionsverhaeltnisse des Konigreichs Sachsen," 1857.

TABLE XIV.—THE DISTRIBUTION OF FAMILY INCOME ACCORDING TO ENGEL

Object of expenditure	Percentage division of annual family income of		
	\$350	\$450	\$750
Food	62	55	50
Shelter	12	12	12
Clothing	16	18	18
Fuel and light	5	5	5
Education	2	3 5	5 5
Public security	1	2	3
Health	1	2	3
Comfort and service	1	2 5	3 5
	100	100	100

Engel also stated the relation of the expenditures for the different budget groups at the different incomes in a series of postulates which have since been known as Engel's laws of consumption. They are as follows:

1. As the income of a family increases, a smaller percentage is spent for food.

2. As the income of a family increases, the percentage of expenditure for clothing remains approximately the same.

3. With all the incomes investigated, the percentage of expenditure for rent, fuel, and light remains approximately the same.

4. As the income increases in amount, a constantly increasing percentage is expended for education, health, recreation, amusement, and so forth.

The majority of our modern expenditure studies follow the general method used by Engel rather than that of Le Play, although some approach a combination of the two.¹

2. Studies in the United States.—The most extensive studies of the expenditures of American families are those

¹ For example, see MORE, LOUISE B., "Wage Earners' Budgets," New York, 1907.

of the United States Bureau of Labor. There have been three such investigations covering a large number of families in a number of different states.¹ The first was in 1889-1890, of 6,809 families connected with certain industries in which there was international competition. The second in 1901 was the largest study which has been attempted in this country. There were 25,440 families included, distributed in the various geographical divisions of the United States in relation to the industrial population. The last study was made in 1918, and included 12,096 white families located in 92 selected industrial centers. Superficial examination gives the impression that these studies are successive investigations of the same type, and can be combined to show trends of expenditures over this period of time, but more careful examination of the data discloses such a difference in the sampling, because of the difference in the purpose of the studies, that any attempt at close comparison would be fallacious.

The Bureau has also made a number of smaller studies which involve only a particular locality or group of workers.

In addition to these studies of the Bureau, there have been a great many made by other agencies. One of the most important of the studies made by these other agencies is the so-called Chapin Report on the Standard of Living in New York². This was published in 1909. The data were 400 family budgets obtained in 1907 and were excellently analyzed. The Chapin study has probably received more attention than any budget study made since that of Engel. It has been quoted in wage disputes, used as a basis for charitable work, and has stimulated similar studies for purposes of comparison. Another important study is a national survey of the costs of living in the United States, which was made by the British Board of

¹ Only the last two are considered as "nation-wide" studies by the Bureau.

² CHAPIN, R. C., "The Standard of Living among Workingmen's Families in New York City," New York, 1909.

Trade¹ in 1909, covering 7,616 families in 29 cities, and dealing principally with food and shelter. The same method of conducting surveys was used by them in surveys of living costs in Great Britain, Germany, France, and Belgium. This material makes possible some sort of international comparisons.

3. Trends of Expenditures.—When the data of expenditure studies are tabulated in such a way that the families can be grouped according to the size of their incomes, and the individual expenditures are expressed either as percentages of the total expenditure or income, we discover certain well-defined trends.² These are illustrated by the following table which has been taken from the last nationwide survey of the Bureau of Labor Statistics.

TABLE XV.—PERCENTAGE DISTRIBUTION OF EXPENDITURE AT DIFFERENT INCOME LEVELS BY FAMILIES IN THE UNITED STATES¹

Income, dollars	Number of families	Food	Cloth- ing	Rent	Fuel ² and light	Furniture ² and fur- nishings	Miscel- laneous	Total
Under 900	332	44 1	13 2	14 5	6 8	3 5	17 8	100
900 to 1,200	2,423	42 4	14 5	13 9	6 0	4 4	18 7	100
1,200 to 1,500	3,959	39 6	15 9	13 8	5 6	4 8	20 2	100
1,500 to 1,800	2,730	37 2	16 7	13 5	5 2	5 5	21 8	100
1,800 to 2,100	1,594	35 7	17 5	13 2	5 0	5 5	23 0	100
2,100 to 2,500	705	34 6	18 7	12 1	4 5	5 7	24 3	100
2,500 and over	353	34 9	20 4	10 6	4 1	5 4	24 7	100
All incomes	12,096	38 2	16 6	13 0	5 2	5 1	21 3	100

¹ U. S. Bureau of Labor Statistics, *Bull.* 357, p. 5

² Excludes a small number of families where rent and fuel are complementary

Some studies express the expenditures as proportions of the total expenditures, others as proportions of the total income. There is a little difference in the case of the lower

¹ "Cost of Living in American Towns," Great Britain Board of Trade. Summarized in U. S. Bureau of Labor *Bull.* 93, March, 1911.

² It is unfortunate that the majority of investigators of family expenditures have not seen fit to carry their analysis beyond the stage of arithmetic averages. It would be useful, for example, if the data for the various income levels were given in terms of frequency distributions and coefficients of variation for each budget group. We would then be able to judge the consistency of expenditure on the different levels, and gain other useful information.

incomes where the savings are small, but for the larger incomes, quite a difference may arise, and a more accurate picture of the larger incomes is obtained by expressing the relations in terms of total income. The majority of the expenditure studies have reference to the smaller incomes. There is very little data on the expenditures of the large incomes.

One must not get the notion from Table XV that the high-income families spent less in dollars for food than the low-income families, quite the reverse is true. The following table shows the actual expenditures from which the proportionate expenditures are derived.

TABLE XVI.—AVERAGE ACTUAL EXPENDITURES OF FAMILIES IN THE UNITED STATES WITH DIFFERENT INCOMES¹

Income, dollars	Average yearly expenses per family for						
	Food, dollars	Clothing, dollars	Rent, dollars	Fuel and light, dollars	Furni- ture and furnish- ings, dollars	Miscel- laneous, dollars	Total, dollars
Under 900	371 61	111 63	121 65	57 19	30 31	119 81	813
800 and under 1,200	456 16	156 45	119 63	64 15	47 85	201 06	1,076
1,200 and under 1,500	515 56	206 50	179 73	73 33	61 95	262 40	1,301
1,500 and under 1,800	571 75	257 38	207 13	79 36	84 31	335 28	1,537
1,800 and under 2,100	626 52	306 94	231 92	87 27	97 20	404 27	1,756
2,100 and under 2,500	711 86	384 20	284 35	92 97	116 74	500 08	2,055
2,500 and over	859 98	503 03	260 21	102 03	133 06	608 23	2,467
All incomes	548 51	237 60	186 55	74 28	73 22	306 11	1,434

¹ U S Bureau of Labor Statistics, *Bull* 357, page 5 Some families are omitted in the averages for Rent and Fuel and Light

American expenditure data for the lower incomes show a nearly uniform tendency for the expenditures for food to decrease, for clothing to increase, for rent and fuel and light to decrease, and for miscellaneous expenditures to increase as the income becomes larger. The notable exceptions are the studies of More¹ and Chapin,² in New York,

¹ MORE, L. B., "Wage Earners' Budgets."

² CHAPIN, R. C., "The Standard of Living among Workingmen's Families in New York City."

where the food expenditure remained at about 45 per cent instead of decreasing, and in the Chapin study where clothing remained at about 14 per cent instead of increasing.

These tendencies are very general, and apply to other countries as well as to the United States. The International Investigation of the British Board of Trade, for example, shows trends of expenditures similar to the United States for food, rent, and miscellaneous expenditures in the United Kingdom, Germany, France, and Belgium. The findings in the case of food are given in the table below.

TABLE XVII.—VARIATION IN THE PROPORTION OF INCOME USED FOR FOOD IN DIFFERENT INCOME GROUPS, IN THE UNITED KINGDOM, GERMANY, FRANCE, AND BELGIUM¹

Weekly income, shillings	United Kingdom	Germany	France	Belgium
Under 20		68 7	62 7	66 1
20 to 25	67 5	64 5	60 8	64 8
25 to 30	66 1	62 5	58 6	63 6
30 to 35	65.2	59 2	57 9	62 1
35 to 40	61 6	57 7	56 1	61 2
Over 40	57.1	56.3	52.8	57.0

¹ Investigation of the British Board of Trade, 1901-1909

These same trends persist even in very low incomes of China which indicate the very broad nature of the generalizations. These data are given in Table XVIII.

TABLE XVIII.—DISTRIBUTION OF EXPENDITURES OF 100 CHINESE FAMILIES¹

Expenditure groups by \$20 classes	Number of cases	Size of family	Food	Clothing	Light and fuel	Rent	Miscellaneous
\$50 to \$69	11	2 5	76 9	5 1	7 6	9 0	1 4
70 to 89	14	3 2	80 3	4 3	5 6	7 9	1 9
90 to 109	32	4 2	78 0	5 9	5 8	8 0	2 2
110 to 129	12	4 3	72 7	9 0	7 5	7 6	3 1
130 to 149	14	4 5	72 4	8 9	7 3	7 3	4 1
150 and over	17	5.0	72 0	9 8	5.7	6 8	5 6

¹ REMER, C F, "Readings in Economics for China," p 249.

We have very little information on the expenditures of the higher-income groups. The National Bureau of Economic Research has published figures for these higher-income groups based on the returns of a questionnaire sent to a small number of wealthy men and on data from the budget study of the Federal Reserve Bank on the cost of living of its employees.¹ Table XIX gives these data. It is to be noted that Tables XV and XIX are expressed in terms of percentages of total expenditures rather than incomes. The decreases would be much more marked, particularly with the table of higher incomes, if they had been expressed as percentages of total incomes. The only differences in trend in the high-income group table that are not also true of the low-income group table, are the clothing expenditure and rent expenditure.

TABLE XIX.—DISTRIBUTION OF EXPENDITURES IN THE HIGHER-INCOME GROUPS AS ESTIMATED BY THE NATIONAL BUREAU OF ECONOMIC RESEARCH¹

Annual income, dollars	Food for family including servants, per cent	Housing including rent on homes owned, per cent	Fuel and light, per cent	Automobiles, yachts, and servants, per cent	Wages of servants, per cent	Clothing, per cent	Miscellaneous, per cent	Total
5,000	27 2	18 0	3 3	9 2	4 5	14 3	23 5	100
10,000	19 2	18 3	3 2	9 8	9 5	11 9	28 1	100
15,000	15 8	18 6	3 0	10 0	11 5	10 3	30 8	100
20,000	13 7	18 9	2 8	10 0	12 3	9 3	33 0	100
25,000	12 0	19 2	2 6	10 0	12 7	8 7	34 8	100
30,000	10 4	19 5	2 4	10 0	12 9	8 1	36 7	100
35,000	9 1	19 8	2 2	10 0	13 1	7 6	38 2	100
40,000	7 9	20 1	2 1	10 0	13 3	7 1	39 5	100
45,000	6 9	20 4	1 9	10 0	13 5	6 7	40 6	100
50,000	6 1	20 7	1 8	10 0	13 7	6 4	41 3	100

¹ "Income in the United States, Its Amount and Distribution, 1909-1919," National Bureau of Economic Research, Vol II, 1922

The relative strength of the tendencies for the different proportions of expenditure to adjust themselves has been studied statistically by Ogburn² for 200 families selected

¹ "Report of Study of Cost of Living of Bank Employees," Federal Reserve Bank of New York, Federal Reserve *Bull*, December, 1920.

² OGBURN, W. F., "Analysis of the Standard of Living in the District of Columbia in 1916," Quarterly Publication, American Statistical Association, June, 1919.

for size and completeness of information from the District of Columbia in 1916. We come to similar conclusions by observing the rates of change. We find that the strongest tendency is the tendency for the proportion spent for food to decrease as the income becomes larger, next for sundries to increase, closely followed by increases in clothing and in savings. There is some tendency for fuel and light to decrease, and a very slight tendency for rent to decrease. These expenditure relationships are sometimes spoken of as elastic or inelastic with reference to the income expansion. Those which increase in percentage as the incomes enlarge are called elastic, and those which decrease, inelastic.

4. Changes within the Budget.—When we endeavor to examine the changes taking place within these large budget items accompanying income changes, we have very inadequate data. We have no data for the United States from actual budgets showing the effect of larger incomes on the proportionate expenditures for different sorts of food. A study made in Sweden¹ in 1913–1914 compares the average price and quality of foods in relation to the annual income per unit per family. The study was of high-grade industrial and middle-class families. Little difference was found in the dietary value of the food consumed, but considerable difference in quality. The most consistent tendency appeared to be that of the proportion spent for meat, fish, and eggs to increase and the proportion used for bread and cereals to decrease as the income became larger.

The expenditure for clothing is flexible and subject to considerable variation between families. The clothing expenditure is largely one of personal tastes and one for which norms of correct expenditure cannot be set up as readily as with food. In the Bureau of Labor Study, this item showed a steadily increasing proportion of the expenditures, which would seem on subsequent analysis to be partly due to the fact that the higher-income groups contained larger families. The increase seems to come

¹ KUNGL, "Socialstyrelsen; Levnads-kost-naderns; Sverige, 1913–1914," 1917–1921.

largely from the increased expenditures of the older children rather than of the parents or of the younger children.

TABLE XX.—AVERAGE EXPENDITURES FOR CLOTHING PER INDIVIDUAL IN THE BUREAU OF LABOR INVESTIGATION, 1918-1919¹

Income group, dollars	Husband	Wife	Children over 15		Children 4 to 8	
			Male	Female	Male	Female
Under 900	\$38 41	\$30 59	\$40.11	\$35 53	\$19 63	\$19 26
1,200	53 21	44 37	50 92	54 31	24 49	25 51
1,200 to 1,500	66 93	57 86	61 82	71 90	30 37	30 61
1,500 to 1,800	78 96	72 31	70 13	86 50	34 28	35 31
1,800 to 2,100	88 33	82 20	84.55	102 33	36 37	39 08
2,100 to 2,500	94 23	89 72	96 24	115 37	39 97	42 15
2,500 and over	96 06	85 72	107 19	142 20	39 06	42 90

¹ "Cost of Living in the United States," U S Bureau of Labor Statistics, *Bull* 357

Ogburn in his study of the selected group of families from the District of Columbia¹ found, however, the greatest elasticity in the clothing expenditure of the women. The clothing expenditure for the children varied only slightly with the increase of income, and while the man's expenditure increased materially, the greatest increase came because of the wife. The Cost-of-living Survey of the

TABLE XXI.—PROPORTION OF EXPENDITURES FOR CLOTHING IN THE CALIFORNIA STATE CIVIL SERVICE COMMISSION BUDGET, 1921

Item	Budget of laborer	Budget of clerk	Budget of executive
Total annual expenditure	\$2.157 44	\$3,149 01	\$7,034 80
Percentage of total expenditure for clothing of:			
Husband	4 5	5 5	5 5
Wife	5 5	8 3	7 5
Children	7 3	8 9	7 1
Family. .	17 3	22 7	20 2

¹ OGBURN, W. F., "Analysis of the Standard of Living in the District of Columbia in 1916," Quarterly Publication, American Statistical Association, June, 1919.

California State Civil Service Commission¹ contains detailed lists of articles of clothing assumed necessary for the family of a laborer, a clerk, and a business man. Here we find tendencies similar to the Ogburn study, although the estimates are higher than the actual expenditures of the latter study.

There are so many items included under sundries and miscellaneous that we can say little regarding the changes in this group of items. Ogburn found for his group of families that the largest expenditures among these items were for insurance, for furniture and furnishings, and for sickness. They showed little relation to the income. Expenditures for education, amusement, and religion seemed especially likely to increase.

The Bureau of Labor study shows the savings and deficits on each income level. The number of families making savings, and the average saving for the group increases quite rapidly as the income increases. At the same time the proportion of families having deficits decreases rapidly.

TABLE XXII.—SAVINGS AND DEFICITS IN DIFFERENT INCOME GROUPS¹

Income group, dollars	Average income per family, dollars	Average expenses per family, dollars	Average surplus or deficit for the group, dollars	Surplus		Deficit		Families having neither surplus or deficit
				Number of families	Average amount, dollars	Number of families	Average amount, dollars	
Under 900	812 80	842 91	— 30 02	137	47 59	144	114 48	51
900 and under 1,200	1,075 38	1,076 12	— 0 70	1,306	67 62	838	107 39	279
1,200 and under 1,500	1,343 80	1,300 71	+ 43 08	2,731	106 27	977	122 48	251
1,500 and under 1,800	1,631 54	1,536 68	+ 94 86	2,112	157 74	525	141 32	93
1,800 and under 2,100	1,924 87	1,755 74	+169 13	1,315	233 41	240	155 57	39
2,100 and under 2,500	2,272 18	2,054 97	+217 21	585	290 65	102	165 68	18
2,500 and over	2,790 25	2,466 91	+323 34	306	404 45	45	213 81	2

¹ "Cost of Living in the United States," Bureau of Labor Statistics, *Bull* 357, p 5

5. Expenditures and Size of Family.—The division of expenditures among the budget items is also influenced by the size of the family. As the family becomes larger, physical necessities require larger expenditures for food and

¹ "Report of Cost-of-living Survey," California State Civil Service Commission," 1923.

for clothing, with a consequent unusually large reduction in the other items of expenditure. The general trends of these expenditures are shown by the budgets for normal families collected by the United States Bureau of Labor in its 1899-1900 survey. Similar tendencies appear in data

TABLE XXIII.—PERCENTAGES OF INCOME SPENT FOR DIFFERENT BUDGET GROUPS BY FAMILIES OF DIFFERENT SIZES¹

	Food	Cloth- ing	Rent	Fuel	Light- ing	All others
Husband and wife	38 45	13 78	16 11	5 01	0 95	25 67
Husband, wife, and 1 child	38 96	14 88	14 92	5 03	0 90	25 31
Husband, wife, and 2 children	41 83	15 04	15 62	5 20	0 93	21 38
Husband, wife, and 3 children	41 91	15 97	15 02	4 93	0 88	21 29
Husband, wife, and 4 children	43 70	16 72	13 89	4 78	0 86	20 05
Husband, wife, and 5 children	45 11	17 17	12 93	4 86	0 82	19 11

¹ Eleventh Annual Report of the Commissioner of Labor, 1891, pp. 2008-2009

available from other countries.¹ The adjustments which are forced to be made in the budget because of the larger families are in the direction of lowered standards. When the food cost per unit is compared with the number of units in the family, there is uniformly found a decided negative correlation. A similar situation exists with the clothing expenditure, while the total expenditure increased, the cost per unit decreased with an increase in the number of units per family. Expenditures for rent decrease as do those for sundries and miscellaneous. The expenditures for sundries and miscellaneous are often taken as an index of the standard of living.

The data for a comparison of the expenditures of urban and rural communities are very meager. The tables which have previously been presented deal with urban people. Such data as we have would seem to indicate that rural expenditures would be much like urban, except that much that is consumed is furnished by the farm. The following table shows the amounts purchased and the amounts furnished by the farm in the various types of items. The values of the articles furnished by the farm are estimated.

¹ Cf. United States Bureau of Labor, *Bull.* 88. Also, KUNGL, "Socialstyrelsen i Sverige, 1913-1914," 1917-1921.

TABLE XXIV.—EXPENDITURES OF 861 FARM FAMILIES IN SELECTED COMMUNITIES IN KENTUCKY, TENNESSEE AND TEXAS¹

Item	Furnished	Purchased	Total
Food	\$383 80	\$248 00	\$631.80
Clothing.	.	254 70	254 70
Rent	137 90	2 00	139 90
Furniture and furnishings	..	28 50	28 50
Operating	14 90	158 00	172 90
Miscellaneous	0 20	208 00	208 20
Total	\$536 80	\$899 20	\$1,436 00

¹ "The Relation Between the Ability to Pay and the Standard of Living Among Farmers," U S Department of Agriculture Department *Bull* 1382, p 8.

The relative amount which the farm furnishes varies with the expenditures. When the expenditures are small, the part contributed by the farm is much larger. In the United States Department of Agriculture Study of 861 farmers in Kentucky, Tennessee, and Texas, the percentage contributed by the farm dropped from 58.3 per cent for expenditures below \$300 to 29.2 per cent for expenditures over \$3,000.

When the expenditures are expressed in percentages, they appear approximately the same as those exhibited in the urban studies. As the income increases, much the same tendencies are exhibited. Lines which are devoted to display, however, or in which consumption depends upon others for its enjoyment increase much less rapidly than with city folk. The expenditure for clothing, for example, will increase at a much less rapid rate under rural conditions than under urban conditions.

This consistency in the relation between expenditures of a family and its size and income enables a rough calculation of the purchasing power along various lines of a particular community to be made, when the sizes and incomes of its families are known. Those items which show a fairly fixed relation to the total income might be estimated directly, once the total income of the community was known. The composition of families and their incomes

would be needed for the other approximations. When these were known, however, considerable information would be given of the amounts and steadiness of demand in general for products of particular grades or qualities. For example, we would know that a community composed principally of families with low incomes would spend a larger proportion of their income for food than a community having the same total income but composed of families with larger incomes. In the first community, the demand would be largely for the cheaper foods, bread and cereals, lower-priced cuts of meats, potatoes, and so on. In the second, a greater variety and better qualities could be sold. The chief limitation of this method of analysis lies in the fact that the classifications are broad, and, in consequence, tell us little regarding the sales of a specific product.

Problem

Two communities *A* and *B* of 10,000 persons possess the following approximate distribution of incomes:

Community <i>A</i>	Community <i>B</i>
5,000 persons have incomes of \$1,000	2,000 persons have incomes of \$1,000
3,000 persons have incomes of 2,000	3,000 persons have incomes of 2,000
2,000 persons have incomes of 3,000	5,000 persons have incomes of 3,000

1. Make a calculation of the difference which one might expect in the expenditures of these communities for the principal budget groups.

2. Suppose that the real incomes of those two communities were raised by a fall in the general price level, the relation between the income groups remaining the same. Show the differences in the relative increases of demand for the different budget groups.

CHAPTER X

VARIATIONS IN CONSUMPTION

Variations in consumption may be considered in three ways: first, between individuals or groups; second, between places; and finally, between times. Each of these types of variation involves special economic problems, and will be considered separately.

1. Variations in Consumption between Individuals and Groups.—A comparison of the consumption of individuals reveals a striking similarity in the consumption habits and goods of the individuals composing a particular social or industrial group. People of a particular class consume nearly the same sort of goods as their neighbors. Our clothing, food, and even the houses in which we live are much the same as those of our associates. This is particularly true of the parts of consumption that come under the observation of others. Between classes, however, the situation is quite different. The commodities which bank clerks as a class consume are in a large part similar, and yet are quite different from those of garage mechanics. In the same manner, it is possible to distinguish characteristics of classes all the way through society. Broad comparisons may be made on the basis of these habits, and some important generalizations can be drawn from them.

The actual commodities and services which a person or group consumes may be termed the *level of consumption* of the person or group. The level of consumption is to be contrasted with the *standard of living*. The standard of living is a desired manner of living and is not necessarily the level of consumption.¹ It is the level of consumption which people feel belongs to them, and which appears to be reasonably within their efforts to attain. It is a psychic

¹ Cf. KYRK, HAZEL, "A Theory of Consumption," pp. 174-176

thing which may be or may not be realized. The level of consumption in contrast is the actual way of living. The standard of living is not the best imaginable way of living, but is the way of living which people feel is incumbent upon them to realize, and without the attainment of which they will be oppressed by a feeling of dissatisfaction. The standard of living is largely a social product and, from the viewpoint of the individual, appears as something which is imposed upon him from outside.

There are important relationships between the standard of living and the level of consumption. If the level of consumption is below the standard of living, there is a feeling of privation and dissatisfaction; if above, a feeling of security and plenty. The whole problem of the restlessness of industrial groups is inseparably bound up with this relation between the standard of living and the level of consumption. The standards of living of many of the very poor are pitifully low, as is evidenced by their contentment with their level of consumption. "If only the poor were discontented," say many social workers.

Over a period of time there is a constant tendency for the standard of living and the level of consumption of a particular group to become adjusted. Thus if the income decreases so that the level of consumption is considerably below the standard of living, those in the group are likely to marry later, have smaller families, and we are less likely to find the children remaining in the same group, with a result that subsequently, with relatively smaller numbers, the members of the group earn more than in the previous generation, with a consequent raising of the level of consumption. Increases in income are likely to result in higher levels of consumption, and higher standards of living as well. The effect of the increase in income depends in part upon the character of the individuals, and in part upon the manner and suddenness of the increase. When the increase in the level of consumption results in higher standards of living, the increased level is likely to be maintained, but if the standards of living remain the same, the

group is likely to expand in size in the next generation enough to lower the level of consumption to the old standard of living. Sudden and large increases of income are seldom of much immediate benefit to the recipients. Much of the increase will probably be squandered in ways which yield little lasting satisfaction, and often in ways which are a detriment to receivers. If, on the contrary, the increase has been gradual, or, better yet, if it comes in an unrecognized form, such as a gradual decrease in prices, the larger income will probably be well used, and result in a higher standard of living as well as level of consumption.

Levels of consumption and standards of living are not fixed things. They change, however, only slowly in their main outlines. They rise, or include more commodities, somewhat more easily than they decline. To decrease one's level of consumption, at least those portions which are visible to others, is looked upon as a public confession of failure, and a thing seriously to be avoided. In consequence, restrictions in consumption following a decrease in income frequently lead to the continuation of the consumption of articles visible to others even though these may not be essential, and to the discarding of articles necessary for efficiency, but which are not visible. Further evidence of the power of society over the consumption of the individual is found in the arrangement of the consumption of many persons. The things which society can see and approve are often stressed at the expense of the less visible items which go to maintain bodily health and vigor. The heavy expenditures of poor families for elaborate funerals at the expense of the proper nourishment of the family, or the shop girl's choice of silk stockings at the expense of warm undergarments are examples.

The reason for the inclusion of the goods which we find in our present standards is an interesting speculation. Many are supposed to be the result of a trial and error discovery, made early by human beings, that these particular goods possessed survival value. Those who experimented with foods or other strange things often met with death. The

tested goods became incorporated in the standard. Primitive peoples are extremely conservative, and cling with great tenacity to their habits. Survival value has ceased, however, to have much importance in the inclusion of new things in our present standards. Life is now too complex to allow us to work things out in this manner.

Another great source of our standards is in the consuming of goods for their prestige value. These are the goods which are included as symbols of status and accomplishment and to meet the desire for distinction and recognition. Society has devised no other way of indicating economic power than "conspicuous leisure and conspicuous consumption."¹ The goods are not included in consumption as opportunities, but as a symbol of class. The higher the economic class, the larger these items bulk. Only the few groups where other insignia of rank are available, such as the academic professions and the military, escape this sort of display. The lower ranks ape the higher, and the display in some of its forms reaches the very lowest ranks. The phenomenon of fashions with their downward diffusion shows the power of this source. It is thus possible for a comparatively small group of acknowledged leaders with economic power and professional position to exercise a dominant influence over a considerable portion of the consumption of the great majority. This element of consumption will probably become more pronounced as society becomes more completely organized on a pecuniary basis with economic position becoming more completely the distinction between classes, and will also become more pronounced as incomes, in general, grow. This element of our consumption may or may not be detrimental; it depends upon which class society sets up to follow, and upon the inherent worth of the insignia of that class. Much is to be accomplished in awakening the rich to the responsibilities of their consumption.

Fashions are recurring ways of doing things, and are to be distinguished from progress which, involving change,

¹ Cf. VEBLEN, T., "Theory of The Leisure Class," Chaps. III and IV.

does not recur. Fashions seem to originate among those who, because of their wealth or talents, distinguish themselves from others. They are acts of differentiation, modes of setting oneself apart. The fashion then proceeds in a regular cycle. Those who possess considerable incomes imitate the leaders. And the imitation proceeds successively down to the lower classes. When, however, the fashion becomes general, it sows the seeds of its own obscurity, for it now becomes necessary for the leaders to differentiate themselves again. Hence the paradox, that the success of the fashion is to be judged by its subsequent popularity, but that that very popularity leads to its own destruction. The fashion cycle is slowed down somewhat by the conservative group who hang on to the old styles as long as possible and who change to the new in the most moderate manner possible rather than adopting the extreme of the style.

The social and individual costs of fashions are high. In the case of durable goods, fashions lead to the discarding of articles which are suitable for use but are made obsolete by the change. If a coat, for example, is beautiful once, it still continues beautiful regardless of the style change, and to throw it away while it still is capable of rendering efficient service constitutes a waste. The uncertainty of the changes in fashion, and the unpredictableness of the particular style that is going to prove popular increases the risk and hence the cost of the merchants' business. The manufacturer also incurs risks because of style changes. The goods he produces may often prove unsalable. Moreover, more expense may be involved in the production of the goods because of the special methods required. For example, in the case of style shoes, the cutting must be done by hand, while the cutting for standard models can be done by machine. The discarding of goods before they have completed their usefulness increases the productive forces necessary to produce them and draws the means of production away from other uses where they might be used to

increase the quantity of goods to be consumed, and in consequence lessens the total product of society.

Producers endeavor to maintain as much control over fashions as possible, in order to lessen their risks and to manipulate the changes to their advantage. The production of styles in women's clothing has, for example, become highly commercialized. Paris is regarded as the undisputed source of these styles. It can hardly be said that anyone "sets" or creates the style. Producers of styles display many models, and from among these the public popularizes a few. New designs are shown at the openings of the couturiers in February and August. If the design can be sold to a royal or titled person or a popular actress, the design may prove a success. Another means of attracting attention to the design is to exhibit the clothes on models or mannequins who appear at the races or on the boulevards of Paris. Cloak and suit makers, buyers for department stores, and representatives of American textile mills make a practice of attending functions at which the creations of the couturier are displayed.

The models shown by the Parisian designers are seldom imported directly into the United States. Their chief influence lies in an imitation of the design in a modified form by American producers. The length of time required for the introduction of a design, often a year, means that the public whims must be forecast a long time in advance. This involves risk. If a designer is successful with one design out of twenty he is well repaid. There is also a considerable risk of piracy.

Manufacturers of specialized raw materials are anxious to see styles demanding the use of their products, and in consequence, often carry on aggressive campaigns in favor of certain styles. For example, in 1919, a large shoe-button manufacturing concern conducted a campaign through unnamed advertising in trade journals purporting to be announcements that buttoned shoes were returning to vogue. At the same time a campaign to maintain the style of high shoes for women was being carried on by a

manufacturer of kid leather, which is the only kind of leather that can be used successfully in the tops of very high shoes. At the same time that this effort was being expended in high-shoe propaganda, another campaign was carried on by a number of companies favoring large numbers of colors in women's shoes. All the companies taking part in this campaign were engaged in the manufacture of colored leather. Besides these campaigns for special interests, the shoe trade, and other trades have carried on campaigns on behalf of the whole industry in regard to certain styles or style policies.

The style cycle has an important effect upon merchandising, in that a merchant must decide upon the particular phase of the cycle in which he is to operate, and must adjust his sales appeals and policy accordingly. In the first portion of the cycle, goods are sold to the leaders or determiners of the fashion. Here the appeal must be to distinction and differentiation from others. The second phase appears where those who closely follow the changes adopt the styles. Here the sales appeal is directed to emulation or to the up-to-dateness of the article. Finally comes the stage of general adoption, reached when the style becomes set and sales become large and fairly certain, and can be made at lower prices. The appeals of this stage are generally those of economical emulation, that a person can now inexpensively follow the actions of the style leaders. The individual merchant must decide in which of these phases he is to operate, as his establishment must become associated by the public with one of these particular phases. Attempts to operate in more than one phase are rarely successful, and attempts to handle one sort of goods in one phase, and another sort in a different phase are likewise usually failures.

2. Variations in Consumption between Places.—The consumption of articles varies greatly between places. A great many factors are responsible for these differences. Differences in nationality, in incomes, prices of products, climate, occupation, age, composition of the population,

and so on are all important. These differences are most easily illustrated in the case of food. Table XXV shows the differences in the consumption of farm families in certain sections of Minnesota in flour, sugar, and coffee.

TABLE XXV.—AMOUNTS OF FLOUR, SUGAR, AND COFFEE CONSUMED PER ADULT A YEAR (357 FAMILIES)¹

Community	Flour, pounds	Sugar, pounds	Coffee, pounds
Blackduck	272	92	12 4
Cambridge	248	87	13 0
Warren	290	90	16 2
Twin City	204	99	12 2
Zumbrota	239	83	12 9
Sleepy Eye	237	91	9 2
Tyler	250	82	10 0
Average of all	247	89	12 2

¹ "How Minnesota Farm-family Incomes Are Spent," Minnesota Agriculture Experiment Station *Bull.* 234, p. 36

3. Variation in Consumption between Times.—The consumption of a particular commodity over a period of time varies because of changes in the demand for the commodity and because of changes in its price. These causes are so closely connected in practice that it is nearly impossible to distinguish between them. The principal causes of changes in demand are, first, changes in the income of the people, second, the growth of population and changes in its composition, and finally, changes in the habits of the people. The results of changes in the incomes of consumers have already been outlined in Chap. IX. The results of the growth of population and the changes in its composition are considered somewhat at length in Chap. XVII. The demand relations of commodities and results of their changes are taken up later in this chapter.

Changes in the prices of products, in the sense in which we are dealing with the problem here, arise from changes in production costs of a given quantity of product. When

these costs are compared over a long period of time many changes are found to have taken place. Inventions and improvements have reduced the cost of many commodities, formerly luxuries, until they are now necessities. The problem is too complex to be dealt with in detail here. It is sufficient to point out that two general classes of goods stand out, those which have historical decreasing costs of production and those which have historical increasing costs of production. These costs are not absolute, but are relative to one another. There are very few commodities for which the absolute costs have risen. The general group which represents the commodities having historical increasing costs is agricultural products. Manufactured products as a group represent historical decreasing costs. When an index of the prices of agricultural products and an index of the prices of manufactured products are compared for any considerable period of time, the price of agricultural products is found to rise steadily, relative to manufactured products. This means, of course, that the costs of producing manufactured products have fallen much more rapidly than the costs of producing agricultural products.

The demands for particular products by the consumers bear certain relations to one another. Certain groups of products may be said to have competing demands; that is, the consumption of one product means that some other products will not be consumed. Commodities which are substitutes for one another fall into this class. The most important example is in the case of food.¹ The national per capita consumption of food, when considered on a calorie, or thermodynamic, basis, remains quite constant. Calorie consumption, of course, varies with different nations, and between classes within the nation. These differences are due to certain climatic differences and to differences in the character of the population. People living in cold climates, for example, require more calories

¹ Cf. TAYLOR, A. E., "Consumption, Merchandising, and Advertising of Foods," *Harvard Business Review*, April, 1924.

than those living in warm climates. The nature of the occupations of the people also affect the calorie consumption. Vigorous outdoor work consumes more calories than sedentary occupations. Habits in housing and clothing, as well as waste in food preparation, will also affect consumption. The size of the people, and the distribution of the people among the various age groups will have some effect. These factors appear to be sufficient to explain international and sectional differences in calorie consumption. It was estimated before the World War, for example, that the daily per capita consumption of Italy was around 2,560 calories, the United Kingdom 2,860 calories, and the United States 3,650 calories.

Among the normally prosperous nations, such as the United States, the total consumption of foodstuffs measured in calories remains fairly constant, regardless of variations in the national income. Changes take place in the foods that go to make up this calorie intake. In prosperous times some of the undernourished may be brought up to normal, but for the majority there will be no increase in calorie consumption. The shift is rather to more desirable foodstuffs. More meat is consumed, and less cereals and potatoes. Similarly, in less prosperous times, there is a change in the foodstuffs composing the diet, but little change in its calorie volume. When times are hard in the North, the use of flour increases, and the consumption of meat declines. In the South, the use of corn increases, and that of wheat declines. There is everywhere a substitution of cheaper calories for higher-priced ones.

This has an important bearing on the introduction of a new foodstuff into the diet, or on the enlarged consumption of one already there, since it means that this foodstuff does not constitute a net addition to the diet, but acts as a substitute for some food already there. Thus the addition of a new food means an approximately equal calorie value reduction in the consumption of some other food or foods. Advertising of their product by a group of producers, which results in an increase in the consumption of that product,

means necessarily a decrease in the consumption of something else.

The demand for certain products may be said to be complementary, that is, if one product is consumed, a great deal more satisfaction can be obtained from it if another commodity is consumed with it, and a similar relationship exists with the other commodity. Bread and butter, a phonograph and its records, and a dress suit with the proper shirt and tie would all be examples. A change in the demand for one is likely, because of this relationship, to be accompanied by a similar change in the demand for the other. The demand for other products may be said to be individual; that is, they have little relation to the consumption of other goods for the satisfaction derived from them.

4. Changes in per Capita Consumption.—General changes of the consumption of particular articles are evident wherever we have the data. Unfortunately, these data are very meager, and all that can be done at present is to show the situation with regard to certain products. Three sorts of regular changes are readily discernible, (1) long-time changes, called "trends," (2) fluctuations above and below the long-time trend, called "cyclical fluctuations," and (3) regular fluctuations within the period of a year, called "seasonal fluctuations." Besides these regular changes, there are occasional irregular changes.

The following table gives the per capita consumption of certain food products at 5-year intervals for such periods as the data are available. Differences in trends are easily discernible.

TABLE XXVI.—PER CAPITA CONSUMPTION OF CERTAIN FOODS IN THE UNITED STATES AT 5-YEAR INTERVALS

Year	Beef, ^a pounds	Pork, ^a pounds	Milk, ^a gallons	Flour, ^a barrels	Butter, ^a pounds	Ice ^a cream, gallons	Sugar, ^a pounds
1900				1 134 ¹	19 9 ³		72 6
1905				1 131 ⁴			76 6
1910	71 1	63 7		1 073 ⁵	17 7	1 04	78 6
1915	54 5	67 1		1 071 ⁶	15 4 ¹	2 08 ¹	79 7
1920	63.1	68 8	43 0	0 889 ⁷	14 7	2 46	99 6
1925	63 1	77 1	54 75	0 891 ⁸	17 0	2 80	114 1 ²

¹ For the year 1916.² For the year 1924.³ For the year 1899.⁴ For the year 1904.⁵ For the year 1909.⁶ For the year 1914.⁷ For the year 1921.⁸ For the year 1923.^a Estimates of the United States Department of Agriculture.^b Estimates of the Institute of Food Research

Textiles are another group of products that can be quite readily expressed in terms of physical units. The per capita consumption of wool, cotton, silk, and rayon, as estimated from mill consumption and imports, is given in Table XXVII. The significant increase is in the use of silk and rayon.

TABLE XXVII — ESTIMATED CONSUMPTION OF TEXTILES IN THE UNITED STATES

Year	Wool, ¹ pounds	Cotton, ² pounds	Silk, ³ pounds	Rayon, ⁴ pounds
1900	5.6	25 5	0 12	
1905	6.4	25 4	0 172	
1910	5.4	26.0	0.243	
1915	6 8	29 9	0 329	0 04
1920	4 8	31.7	0 276	0 07
1925	5 4	29.8	0 56	0 52

¹ Apparent wool consumption from "Yearbook of Agriculture "² Apparent cotton consumption from National Association of Cotton Manufacturers.³ Imports of silk.⁴ Apparent rayon consumption from the Silk Association of America.

The articles which can be classified principally as luxuries in practically every case show increasing per capita consumption. Table XXVIII gives some indices of the growth in this direction. The figures are the per capita production in the manufacturing industries in the United States, deflated to dollars of constant purchasing power with the years 1910 to 1914 as the base. There are a great many inaccuracies in such a method, but it serves to give a general idea of the changes.

TABLE XXVIII.—PER CAPITA VALUE OF CERTAIN MANUFACTURED PRODUCTS IN THE UNITED STATES, IN TERMS OF DOLLARS OF CONSTANT PURCHASING POWER (1910-1914 = 100)

Year	Cigars and cigarettes, dollars	Jewelry, dollars	Perfumery and cosmetics, dollars	Phono- graphs, dollars	Furs, dollars
1899	2 59	0 75	0 11		0 42
1904	2 98	0 74	0 16		0 52
1909	2 90	0.89	0 16	0 13	0 62
1914	3 19	0 82	0 17	0.27	0 44
1919	3 44	0 91	0 26	0.71	0 77
1921	5.00	0 78	0 44	0.61	0 86
1923	4 68	0 99	0 57	0.61	1 13

The cyclical variations in consumption have never been studied very completely. For society as a group, the variations are largely matters of changes of incomes. These have been considered previously in our discussion of the business cycle. All articles are not, of course, similarly affected. Staple food products would remain quite constant, while clothing and shoes would fluctuate more. When indices of the real incomes of factory workers and sales of 5- and 10-cent stores, department stores, and grocery stores are compared there is a marked similarity. Likewise, indices of the real income of factory workers and of the physical volume of trade show similar fluctuations.¹

¹ Cf. BERRIDGE, W. A., "An Index of the Incomes of Factory Workers in the United States" in "Purchasing Power of the Consumer," pp. 56-63.

The consumption of many articles varies seasonally. Retail sales are not concomitant with consumption, but they serve to indicate variations in consumption. For most retail lines there is a marked seasonality in sales. Table XXIX shows the seasonal variations in retail sales for a number of different types of stores.

TABLE XXIX.—SEASONAL VARIATIONS IN RETAIL SALES IN DIFFERENT TYPES OF STORES¹

Kind of store	January	February	March	April	May	June	July	August	September	October	November	December
Department	87	77	100	104	103	100	75	78	91	112	113	160
Mail order	99	91	115	100	87	84	74	77	97	128	126	122
Grocery chains	100	95	106	101	98	96	98	97	97	105	102	105
5- and 10-cent store	72	75	95	95	96	92	92	96	94	108	94	122
Cigar chains	88	86	96	96	101	96	99	97	99	107	100	135
Drug chains	97	91	100	98	98	98	101	100	99	102	94	122
Shoe chains	75	68	96	121	116	106	95	79	92	113	110	129
Music chains	84	85	93	86	82	78	75	88	102	119	121	187
Candy chains	84	85	96	102	97	92	98	101	100	103	95	147

¹ VANDERBLUE, H B, "Problems in Business Economics," p 65.

In most of these lines, except the grocery chains, there are pronounced seasonal movements. There are generally two periods of dullness in most lines, the first during

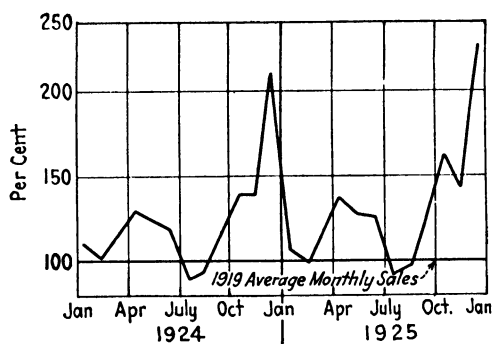


FIG. 9.—Seasonal variation in sales of department stores in 1924 and 1925 in the Second Federal Reserve District as reported by the Federal Reserve Bank of that District.

January and February, and the second period during July and August. There is usually a considerable volume during the spring months, and an increase in volume

during the fall which reaches a peak in December. The winter dullness is most pronounced in the 5- and 10-cent and shoe stores. The midsummer inactivity affects the department stores, mail-order houses and music stores particularly. The candy and drug stores have considerable hot-weather business. Figure 9 shows the variations during 1924 and 1925 in the sales of 359 department stores located in various portions of the United States.

Sales by wholesalers are not concomitant with retail sales, but they serve in a general way to represent these fluctuations. The following charts show the fluctuations in the sales of representative wholesale dealers in men's

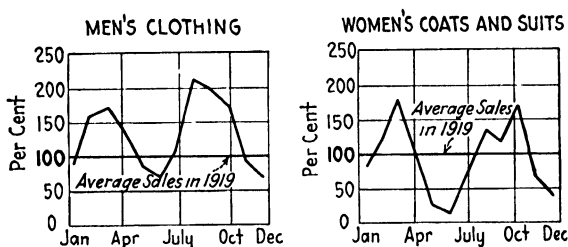


FIG. 10.—Seasonal variation in the sales by wholesalers of men's clothing and women's coats and suits in the Second Federal Reserve District in 1925, as reported by the Federal Reserve Bank of that District.

clothing, and women's suits and coats in the Second Federal Reserve District, which is composed of the territory around New York City.

Particular commodities, likewise, show distinct seasonal variations in consumption. The accompanying charts show some of the variations in the consumption of milk and cream in greater New York City. Milk and cream are particularly good examples, because a constant price is maintained throughout the year and variations in sales show true changes in demand. The graph for milk shows a peak of consumption in the warm months with consumption falling off on either side in the cooler months. The heavy-cream curve shows a peak in May and June during the berry season, with a very great slump in August and September during the vacation period. Consumers of

heavy cream are in a high enough income group customarily to take vacations. The condensed-milk sales curve is explained by the variations in coffee drinking, bottled condensed milk being purchased by many New York

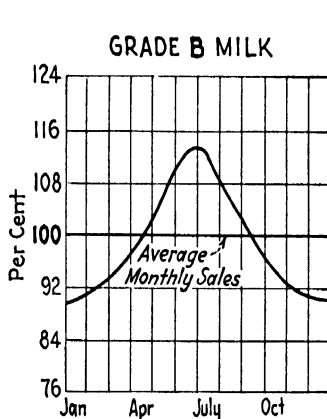


FIG. 11.—Seasonal variation in the sales of grade B milk in greater New York.¹

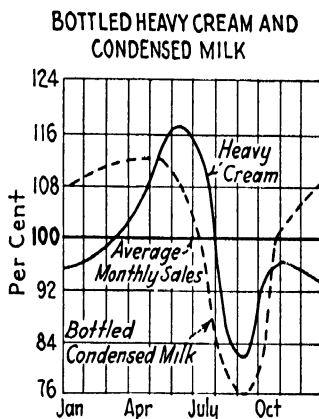


FIG. 12.—Seasonal variation in the sales of bottled heavy cream and condensed milk at retail in greater New York.¹

consumers for use in their coffee instead of cream. Coffee drinking, of course, falls off materially during the warm weather.

Problem

1. Discuss the sources of prestige value in the consumption of goods in modern society.

2. Are there forces at the present time making for less waste in goods consumed for prestige value?

3. Do you think that the prestige values of the future will be more or less rational? Why?

4. A certain writer has maintained that there is an increasing dominance of feminine standards in our manner of living. What evidences of this do you find? Would you agree with his conclusion?

¹Cornell University—Farm Economics, February, 1926

CHAPTER XI

MANIPULATION OF DEMAND

The irrationality of consumers and their susceptibility to suggestion in their consumption provide an opportunity for the individual business man to increase his sales through aggressive advertising and salesmanship. A large part of consumption is, in consequence, directed to a considerable degree by advertising and salesmanship. One writer has estimated that consumers have conscious wants for about half of the things which they consume, and that they depend upon suggestion and direction for the selection of the other half.¹ This direction of consumption by the business man for his own profit is not entirely desirable because consumers may be made to desire and consume goods which are not for the best interests of society. The seller of liquor, for example, was unconcerned with the probability that the expansion of the consumption of this product was undesirable socially. He was concerned solely with the problem of securing a larger sale of his product by any method that paid its cost to him. The seller of a particular product does not care whether the consumer might better expend his income along other lines if only he can increase the sale of his particular product. The motives which are exploited for the purpose of selling goods are not always the characteristics of human beings which it is most desirable to have exploited. The seller selects those motives which are most effective for the sale of his product, and is quite as likely to exploit human weaknesses as to develop desirable characteristics. A great number of appeals, for example, are on the basis of sex emotions rather than on the basis of intellectual or moral virtues.

¹ Cf. DIBBLEE, G. B., "The Laws of Supply and Demand," Chap. XV, "The Manipulation of Demand."

1. Expenditures for Demand Manipulation.—The amount of money expended on advertising and in personal selling is tremendous. Advertising expenditure is estimated at something over a billion dollars annually. Mr. Bok, of the Curtis Publishing Company, estimated the following expenditures for 1920:

TABLE XXX.—ESTIMATED EXPENDITURES IN VARIOUS SORTS OF ADVERTISING IN THE UNITED STATES, 1920¹

Newspapers	\$600,000,000
Direct advertising (mail matter, handbills)	300,000,000
Magazines	150,000,000
Trade papers	70,000,000
Farm papers	27,000,000
Signboards	30,000,000
Novelties	80,000,000
Demonstrations	24,000,000
Window displays.	20,000,000
Posters...	12,000,000
Street-car advertisements.	11,000,000
Motion pictures	5,000,000
Programs	5,000,000
<hr/>	
Total	\$1,284,000,000

¹ Bok, E. W., "The Day of the Advertisement," *Atlantic Monthly*, Vol 132, p 533.

The expenditure for personal selling is more difficult to estimate, although it is undoubtedly more than the advertising expenditure. Much of this selling expense consists of mere order taking, or routine service to purchasers. The selling which we have in mind here is that which actively persuades people in the purchase of certain articles. The following table contains an estimate of the selling costs of certain articles, together with the estimated advertising expenditures. These are manufacturers' selling expenses. A somewhat similar relationship exists in retailing establishments.

TABLE XXXI.—SELLING AND ADVERTISING COSTS IN REPRESENTATIVE LINES¹

	Average selling cost, per cent of sales	Average adver- tising cost, per cent of sales
Automobile tires	20 0	3 0
Clothing (women's)	18 0	4 5
Grocery (biscuits and crackers)	22 0	2 0
Kitchen cabinets	18 0	5 0
Overalls	7 0	5 0
Pharmaceuticals	18 0	0 2
Shoes	11.67	0 17
Watches	8.5	4 5

¹ HALL, S. R., "Handbook of Sales Management," p. 129.

2. Is Demand Manipulation Beneficial to the Consumer?

The expenditures for demand manipulation are steadily increasing, and raise the question as to whether these activities yield, in general, any addition to social well being, and whether, in fact, demand manipulation may not operate to the detriment of society. The problem is difficult and the only solution at present is to point out certain sorts of effort that are clearly beneficial, and certain kinds that are clearly detrimental.

Nearly all sales effort is competitive in nature;¹ a very large part is clearly competitive. This effort is designed to draw trade away from a rival, and to lead to the substitution of the particular concern's goods for those of the competitor. If the goods are approximately equal in their capacities to satisfy the consumers' wants, there is clearly no gain to the consumers. There may be, however, even under these circumstances, certain subsequent developments because of this change of patronage which may affect subsequent consumers. It is strenuously argued, particularly by advertising men, that this expansion of business leads to the concentration of business in a smaller number of larger business units, and that these larger business units will be able to operate at lower costs. The

¹ Cf. Pigou, A. C., "Economics of Welfare," 1st Ed., p. 172-175.

consequence of these lowered costs may be lower prices or better qualities of the good. If the larger business operates at lower costs, and the cost of transference of trade is less than the reduction of costs, then there are certain advantages from this sales effort, even though it is competitive. On the contrary, if the large business operates on the same costs or higher costs, then there can be no gain. It must be pointed out, in addition, that expenditures on selling effort made by competing firms may simply have a neutralizing effect, and leave production in precisely the same situation as it would have been if nothing had been expended. If two firms make equal efforts to attract patronage at the expense of each other, it would seem that their efforts would neutralize one another and leave the situation precisely as it would have been if nothing had been expended at all.

It is not clear that there has been a concentration in large plants as a result of sales efforts. The report of the Census Bureau on "The Integration of Industrial Operation" says, for example;

Throughout industry as a whole, no general tendencies of growth can be found. Although the number of large-scale establishments is rapidly increasing, the size of establishments at any given moment varies to a marked degree from industry to industry.¹

In merchandising, another investigator summarizes as follows:

(a) Large-sized marketing organizations are definitely increasing in the United States.

(b) Advertising is freely used by these large-sized organizations. Doubtless it has been influential in developing many institutions to their present size.

(c) It is not clear that any material price concessions have been made to consumers as a direct result of the size of stores or organizations.²

¹ THORP, W. L., "Integration of Industrial Operation," Census Monograph III, 1924, p. 89.

² VAILE, R. S., "Economics of Advertising," p. 95.

A certain portion of sales efforts is directed toward increasing the sale of things which, though profitable for the individual producers, are nevertheless detrimental to society.¹ The liquor industry, fake medicine business, and unsafe food products would be cases in point. These have been limited by law with a view to social betterment. This sort of sales effort is clearly a social detriment.

Much sales effort is concerned with lessening the utility of goods which are already possessed by the consumer. This may take the form of convincing him of the need of a greater variety of articles to perform a particular service, or rendering an article obsolete through a style change. The manufacturers of eye glasses have recently carried on a campaign designed to convince the public that there are certain styles of glasses that are proper for particular occasions. If the campaign were successful, people would need three rather than a single pair of glasses to supply their needs. Certain portions of the men's clothing trade have advocated a more rapid style change with a view of making clothes obsolete before they would previously have been discarded. For example, the following statement by the chairman of the Style Committee of a national association of retailers selling men's clothing, says:

It's a well-known fact that in women's clothing styles change three or four times a season and that the wardrobes of women throughout the country are filled with good clothing they do not wear for the reason that it is out of style. There's no good reason why we cannot fill the men's wardrobes of the country with the same method as is pursued by the women's wear houses.²

Considerable sales effort is not strictly competitive in nature but teaches the consumer new uses of the goods which he consumes, or desirable new articles which he may add to his consumption. Educational campaigns carried on by trade associations without mention of individual

¹ Cf. SLICHTER, S. H., "The Organization and Control of Economic Activity," in "The Trend of Economics," pp. 310-314.

² COPELAND, M. T., "Problems in Marketing," p. 9.

concerns are examples of such efforts. Even this sort of effort is, however, of a somewhat competitive nature, since one can seldom increase the consumption of one commodity without detracting from the consumption of others. New products and improvements of old ones are, however, much more rapidly introduced than would be possible without such efforts, and this is distinctly desirable. Through this function, sales efforts have been responsible for an improvement in our consumption and, in part, for our rising standard of living. It may also be argued that it is probable that the new desires aroused have led to a considerable increase in effort upon the part of workers to secure the income necessary to purchase these commodities. Our total production has, in consequence, been materially increased. This, according to our American philosophy, is highly desirable.

3. The Effectiveness of Sales Effort.—The interest which the seller may secure from the consumer in regard to his product varies from mere recognition to insistence upon the purchase of that particular article. The interest shades by imperceptible steps from (1) consumer recognition through (2) consumer preference to (3) consumer insistence.¹ In goods which are essentially similar in character, and which are made by a number of different manufacturers, about the best that can be hoped for is consumer recognition or consumer preference. Even consumer recognition increases the possibilities of sales, for if the consumer is presented with the choice of several similar articles, recognition of a brand among the unknowns is usually sufficient to sway the sale to that article. The manufacturer who can develop a consumer preference, for example, in getting consumers to inquire for his good by brand, has still further strengthened his sales possibilities.

In the small wares which we are constantly buying with but little thought being paid to the purchases, this consumer recognition and preference can be maintained only by

¹ The development of these points is made by COPELAND in his "Principles of Merchandising."

constant advertising. St. Jacobs Oil and Pearline are the classic examples of this among advertising men. Both obtained a wide sale a number of years ago through extensive advertising by their founders. In both cases, when the properties were passed on to the heirs of the deceased founder, the heirs decided the product was well enough known to continue to sell without advertising. Each product was unsalable within a short time, and the plants were closed.

The insistence upon his product by the consumers is the ultimate aim of every manufacturer. Some few, chiefly in the larger articles which are bought occasionally and to which people give considerable thought, are able to secure this insistence. Sales effort here is likely to become more educational in character, and to lose some of the strictly competitive aspect which it has for the smaller products.

The buying motives of consumers are a subject of constant study among selling technicians. These motives are many and varied. They have been divided into two large groups, rational motives and emotional motives. Emotional buying motives include emulation, pride in one's personal appearance, romantic instincts, social ambition, and similar motives which have their origins in human instincts where the responses are unreasoned and impulsive. Rational motives, on the contrary, appeal to reason, and include such things as economy in purchase, durability, and the like. There is no basis of judging the comparative importance of these appeals in the case of personal selling. In the case of advertising, however, some idea may be gained by comparing the number of advertisements carrying the two types of appeal. This Copeland did for 688 advertisements appearing in magazines with a national circulation.¹ An extreme example is given in the table below for a single issue of a particular magazine.

¹ COPELAND, M. T. "Principles of Merchandising," p. 185.

TABLE XXXII.—ANALYSIS OF ADVERTISEMENTS IN THE *Smart Set Magazine* FOR NOVEMBER, 1923¹

Analysis by product		Analysis by appeal	
Correspondence courses, books	44	Appeal to vanity	39
Beauty and cosmetics	43	Appeal to shame	22
Jewelry	28	Appeal to sex curiosity	17
Automobiles and novelties	21	Appeal to cupidity	17
Patent medicines and lost vigor	19	Appeal to fear	8
Music, movies, etc.	16	Palpably false	44
Food	12	Harmful products (not includ-	
Clothing	12	ing tobacco)	28
"Earn more money"	11		
Investments.	7	Total	175
Laxatives.	6		
Shelter	2		
Tobacco	6		
Gum	2		
Miscellaneous	15		
Total	244		

¹ CHASE, S., "The Tragedy of Waste," p. 119

The effectiveness of advertising as a means of increasing sales differs materially with the type of goods to be sold. Vaile, after comparing the sales of some 200 well-known firms with different advertising policies during the period from 1921 to 1924, concludes as follows:¹

The spread between the sales of firms which increased their advertising and those which decreased, during the years following 1920, is particularly large in the cases of personal items and clothing. There is a moderate spread in the auto-equipment and house-furnishing lines, while it is small for groceries, automobiles, and building materials. This would indicate that advertising was more effective, during these years, in the manipulation of desires for personal items and clothing than for the other commodities studied. Advertising had relatively little effect in determining which brands of automobiles, building materials, and groceries to buy.

The desirable feature of advertising lies in the dissemination of news of coming events or products. New products are more quickly introduced, and improvements in the

¹ VAILE, R. S., "Economics of Advertising," p. 123.

use of old ones spread more rapidly. National advertising for the education of the consumer, if conducted by an impartial and scientific body, would help greatly in making our consumption more efficient. Properly directed sales effort may lead consumers to make better choices. But much of our present-day advertising is wasteful and costly for the consumer, and might well be dispensed with.

Problem

The following extracts indicate differences in opinions as to the most important factors in determining sales.¹

Writer I:

"Above all looms the manufacturer. Altogether he is the strongest factor in the fight. If he is an advertising manufacturer, he rules the situation in the last analysis. He has made his goods known, through his trade mark, to consumers. He is the maker of the things which this country eats, wears, sleeps on, plays with, and works with."

Writer II:

"With his direct contact, his personal influence, and his final selling talk, the retailer is the power that concludes sales. The influence of the retailer in intimate touch with the consumers is far greater and more effective than a distant manufacturer whose appeal is by means of the printed word alone."

Writer III:

"When the consumer buys, *he* does the *choosing*. He asserts his particular individuality. He expresses his likes and dislikes down to the most subtle differences. He weighs values between this and that brand of a similar product. He discriminates; he wants *what* he wants, and he gets it."

Write a statement of your position in this controversy and the reasons why you take this position.

¹ Adapted from Copeland, M. T. "Problems in Marketing," p. 25-27.

CHAPTER XII

THE CONSUMER'S PURCHASING HABITS

The goods which the consumer purchases fall quite readily into three classes when considered on the basis of his buying habits. These are called convenience goods, shopping goods, and specialty goods.¹ Convenience goods are those things which the consumer purchases in the most convenient manner possible. They generally comprise things purchased at frequent intervals, and are quite low in value. Such things as milk, bread, thread, and tooth paste fall into the convenience-goods class. Shopping goods include those things which the consumer desires to compare in price and quality in a large number of establishments before purchasing. They are often quite large items, and are usually purchased for show. Style goods, such as women's clothes, and furniture are examples of such goods. Specialty goods constitute the last class. These are goods which are sufficiently different from other goods, or have been made so by advertising, that they possess reputation enough to cause the consumer to go to considerable inconvenience to purchase the particular articles. Usually this involves going to a particular store to purchase the article. Certain grades of fine china, typewriters, and washing machines would be examples of this sort of goods. There are borderline cases, of course, where goods do not fall readily into a particular class, but are, for example, specialty goods in one place, and shopping goods in another. In general, the distinction is sufficiently clear to be useful.

1. Retailing and Its Costs.—Distinct types of retailing units have developed for the handling of these different

¹ This classification is developed by PROFESSOR M. T. COPELAND in his "Principles of Merchandising," Chaps. II, III, and IV.

classes of goods. The great bulk of convenience goods are handled through small neighborhood stores, either single units, or members of chains. There are about 1,000,000 of these retail units in the country. Grocery stores predominate, running about one to 73 families. Hardware stores run about one to 650 families and drug stores are slightly more numerous. Chain-store organizations are found largely in the convenience-goods lines. The most successful are in the grocery, drug, tobacco, and candy fields. Some of these chains have grown to immense size. Chain stores have been serviceable in some shopping lines, but in only a few. The chief examples are the 5- and 10-cent chains, and the dry goods stores of the J. C. Penny Company. The latter stores operate in communities of moderate size, and sell from a limited stock of staple goods. In consequence, they approach a convenience-goods type of store. There are a number of chains in specialty lines where the manufacturer owns and operates his own retail outlets. Unless a manufacturer makes a complete store stock, however, ventures into retailing are not likely to prove successful. There is evidence that the chain-store movement is approaching its peak in certain lines, notably the grocery trade. There will be a continued growth based upon the expansion of population, but the establishment of new units will probably not be extended much further.

The sale of shopping goods is generally concentrated in a small district with a considerable number of stores. This is necessary because the consumer desires to compare kinds and prices of goods before purchasing. A store located outside of the district quite often fails. The department store is the great urban shopping institution, although the shopping district is also crowded with smaller shops handling more restricted lines of goods. The shopping trade of a place is necessarily limited, and, in consequence, there seems to be a limit to the number of department stores that can be operated. Cities up to 500,000 seldom have over three, or possibly four, large department

stores. If a new store is started and proves successful, it is generally at the expense of one of the older institutions. The department store is distinctly a woman's organization and is built around her buying habits. Men generally do not shop around. The sales in departments dealing strictly in men's goods, such as men's furnishings, are largely made to women. For rural communities, the mail-order house is the principal shopping institution. Mail-order houses list convenience and specialty goods in their catalogues, but the great bulk of the space, and probably their strongest appeal, is along shopping goods lines. Such shopping lines as are handled in the country itself have become concentrated in county seats and the larger places rather recently. The advent of the automobile has been largely responsible for this concentration.

Specialty goods are usually handled by smaller shops, although occasionally they are found in certain departments of department stores. When handled by department stores, some endeavor is usually made to set the department off from the rest of the store, in the nature of a shop within the store. Manufacturers maintain a closer control over retailing of specialty goods than over either shopping or convenience goods. They occasionally maintain their own retail outlets, and frequently make use of the device of exclusive agencies.

The costs of retailing goods differ quite materially, depending upon the particular class into which they fall. The store handling convenience goods has a quite regular clientele. The desires for convenience goods are usually of a recurring nature, and sales can be foretold with reasonable accuracy. The rate of sales, in proportion to the stock of goods on hand, is, in consequence, quite high, with the effect of lowering retailing costs. Grocery stores will usually have a stock turn (meaning the number of times the average amount of goods on their shelves are sold during the year) of from eight to twelve times. Jewelry stores which are either specialty or shopping lines are fortunate if they turn their stock more than one and

a half times during the year. Little sales effort is required in selling convenience goods since the consumers know their wants, and the clerks become principally order takers.

The costs of retailing shopping and specialty goods are ordinarily considerably higher than for convenience goods. Shopping goods are usually handled in large-scale organizations, and considerable expense is involved in getting a large number of customers into the store to buy. Not only is extensive advertising necessary, but a number of special services, such as tea, rest rooms, barber shops, and frequent deliveries, increase expenses. Selling is difficult, and requires more of the sales person's time per sale. The large volume of returned goods in many department stores is also a cause of higher expenses. Returned goods frequently amount to 20 per cent of the gross sales of large metropolitan department stores. Certain departments, such as women's and misses' wear, frequently run much higher. With specialty goods, the chief causes of the high cost of retailing are the difficulties of maintaining a steady stream of customers in the store, and the making of sales. Specialty goods are purchased at even less frequent intervals than shopping goods, often only once or twice during a lifetime, and maintaining a given volume of business necessitates attracting new customers constantly. This usually involves heavy advertising outlays.

The following table shows, in a general way, the nature of the differences in costs, and the particular items of cost for different classes of stores. Grocery and hardware stores serve as examples of convenience lines, department stores for shopping lines, and jewelry and shoe stores for specialty goods.

An examination of the items included in these total costs gives an indication of the reasons for the difference in costs of retailing the different classes of goods. The first noticeable difference is in selling cost. For convenience goods it is low, about one-half that of the specialty and shopping goods, which indicates in a rough way the difference in sales effort involved. Advertising cost is also high

in specialty and shopping goods while low in convenience lines. Customers go to convenience-goods stores, as the name implies, because they are convenient, and little advertising is necessary to secure trade. In fact, it is

TABLE XXXIII.—COMPARISON OF RETAILING COSTS IN STORES HANDLING DIFFERENT CLASSES OF GOODS
(Percentage of Net Sales)

	Retail grocery, ¹ per cent	Hard- ware, ² per cent	Depart- ment, ³ per cent	Jewelry, ⁴ per cent	Shoe, ⁵ per cent
Net sales	\$50,000– 99,000		\$1,000,000 and over	\$50,000 and over	\$50,000– 99,000
Wages of sales force	7 0	6 2	15 4	11 1	10 7
Advertising	0 3		2 9	4 3	2 2
Total selling	7 9	7 0		16 7	13 1
Total delivery	2 6	0 7		0 5	0 0
Total buying and man- agement	2 3	4 4		7 7	4 6
Rent	1 3	1 7	2 9	4 8	3 0
Total fixed charge and upkeep	3 5	7 0		12 8	8 3
Miscellaneous	1 1	1 4		2 3	1 3
Total expense	17 4	21 0	28 6	40 0	27 3
Gross margin	18 9	27 1	32 0	40 7	28 7
Net profit	1 5	5 8	3 4	0 7	1 4

¹ "Operating Expenses in Retail Grocery Stores in 1922," Bureau of Business Research, Harvard University, *Bull* 35, p. 46

² "Operating Expenses in Retail Hardware Stores in 1919," Bureau of Business Research, Harvard University, *Bull* 21, pp. 8 and 11

³ "Operating Expenses in Department Stores in 1922," Bureau of Business Research, Harvard University, *Bull* 37, p. 38

⁴ "Operating Expenses in Retail Jewelry Stores in 1922," Bureau of Business Research, Harvard University, *Bull* 38, p. 38

⁵ "Operating Expenses in Retail Shoe Stores in 1922," Bureau of Business Research, Harvard University, *Bull* 36, p. 36.

questionable whether any considerable amount of advertising would pay in these stores. With a department store, however, a large number of customers are essential, and advertising is one of the means of attracting them. Specialty shops must also advertise heavily, particularly

those that deal in large-unit goods that are purchased only once or twice in a lifetime. These stores must have a constant stream of new customers, and here again advertising aids. Other principal differences appear in the fixed charges, where the specialty shops and department stores appear higher. This latter is largely a question of the rate of stock turn. With convenience goods, the demands of consumers are quite constant and more uniform between individuals, and hence stocks can be readily adjusted, and the rate of stock turn kept high. Retail groceries are unique in their high delivery costs.

Retailing costs generally constitute the largest single portion of the marketing costs. The following table indicates their extent for a number of commodities.

TABLE XXXIV.—PORTION OF THE CONSUMER'S DOLLAR TAKEN FOR MARKETING CERTAIN COMMODITIES

	Oranges ¹	Corn flakes ²	Men's shoes ³	Furniture ⁴
Grower or producer	42 3	63 7	71 7	56 9
Transportation	22 2	8 6		3 3
Wholesaler	8 1	8 6		
Retailer	27 4	19 1	28 3	39 8
	100.0	100 0	100 0	100 0

¹ PHILLIPS, F. G., and SAMUEL FRASER, "Wholesale Distribution of Fruits and Vegetables," 1922, p. 80 (Joint Council of National League of Commission Merchants of the United States, The Western Fruit Jobbers' Association, and The International Apple Shippers' Association)

² "Marketing and Distribution," *Report of the Joint Commission of Agricultural Inquiry*, 1922, Part IV, p. 212

³ *Ibid.*, p. 223

⁴ "Household Furniture," Federal Trade Commission *Report on House Furnishings Industries*, Vol. I, 1923, pp. 137-138

2. The Increasing Effort Spent in Distribution.—There has been a constant increase in the proportion of our energy expended in the distribution and transportation of goods during the past 50 years. The number of persons ten years of age and over, gainfully employed in distribu-

tion, may be taken as a rough measure of the energy expended. This has increased from 10 per cent in 1870 of all those gainfully employed to 25 per cent in 1920. This increase is shown by census years in Table XXXV.

TABLE XXXV.—NUMBER OF PERSONS TEN YEARS OF AGE AND OVER GAINFULLY EMPLOYED ENGAGED IN PHYSICAL PRODUCTION, IN DISTRIBUTION, AND IN PROFESSIONAL AND DOMESTIC SERVICE, AT THE DIFFERENT CENSUS PERIODS

Census	Production	Per cent	Distribution	Per cent	Professional and domestic service	Per cent
1870	8,629,892	69	1,191,238	10	2,684,793	21
1880	11,498,601	66	1,871,503	11	4,021,995	23
1890	14,826,916	64	3,326,122	14	5,165,145	22
1900	17,467,074	60	4,766,964	16	6,839,195	24
1910	23,375,446	61	7,605,730	20	7,186,160	19
1920	24,861,905	60	10,433,102	25	6,319,241	15

¹ BORSODI, "The Distribution Age," p. 12

This constant increase in the proportion of our total energy devoted to the distribution and selling of goods is, in a large measure, a direct result of our increasing specialization in manufacturing with its attendant advantages, and of improvements in the arts. There has been a much greater advancement in the methods of production than in distribution; that is, the per capita product per man engaged in physical production has increased many more times than the per capita product per man engaged in distribution. The increased quantities of goods can, in consequence, be distributed only by having a larger proportion of our population engaged in distribution.

3. The Possibilities of Reducing Retail Costs.—The possibility of reducing retailing costs is an important problem since these costs are usually larger than those of any other single step in the marketing process. An estimate of the number of stores and the average number of families per store is given in the table below.

These figures indicate that the average retail establishment in each line must be very small, and that there are a great many stores which cannot be successfully supported by the number of families which they serve. One of the reasons for the large number of stores is the ease with which people with small amounts of capital and little or no experience can enter the retailing field. This is particularly true of the retail grocery business.

TABLE XXXVI.—NUMBER OF FAMILIES PER STORE FOR CERTAIN CLASSES OF STORES¹

	Retailers	Families of dealers
Groceries	334,212	72 6
Mens furnishings	40,339	602 7
Boots and shoes	141,867	171 6
Dry goods	35,207	691 5
Hardware	37,032	657 5

¹ "Marketing and Distribution," Joint Commission of Agricultural Inquiry Report, Part IV 1921, p 206-207

Such data as we have on the costs of operating stores of various sizes do not indicate that under the existing conditions the larger stores have any lower costs of retailing than the smaller stores.¹ Costs of retailing are usually expressed as a percentage of net sales. This is, however, an insufficient measure for comparing stores, since it takes no account of services rendered, and varies with the price at which the store sells its goods. The usual situation seems to be for operating costs to decline as we pass from the small- to the medium-sized stores, and then to increase as we pass from the medium-sized to the larger-sized stores. For example, the Harvard Bureau of Business Research reports the following figures for retail shoe stores in 1920:

¹ WELD, L. D. H., "Do the Principles of Large-scale Production Apply to Merchandising?" *American Economic Review*, Vol. 13 (Supplement), pp. 185-197.

TABLE XXXVII.—COST OF DOING BUSINESS IN RETAIL SHOE STORE
OF DIFFERENT SIZES IN 1920, AS REPORTED BY THE HARVARD
BUREAU OF BUSINESS RESEARCH¹

Sales, dollars	Cost of doing business, percentage
Less than 30,000	25 0
30,000 to 50,000	24 3
50,000 to 100,000	23 5
100,000 to 250,000	26 6
Over 250,000	29 6

¹"Operating Expenses in Retail Shoe Stores in 1920," Harvard Bureau of Business Research *Bull.*, 28

The notable exceptions to this general rule are department stores where the figures show a continuous increase in expense as the stores become larger, until the group with over \$2,500,000 in annual sales is reached, where the expenses decline; and in retail meat stores, where the costs consistently decrease as the stores become larger. This suggests the probability that the service rendered by the larger stores is superior to that of the smaller stores. The service rendered by large and by small meat shops is essentially the same, and here the costs decline as the shops become larger. A study of the itemized expenses for the other stores supports the idea of differences in services. In other words, there seems to be a tendency for the cost of retailing to decline as the retail store becomes larger, as long as the services rendered by the store remain about the same, but this tendency is likely to be more than offset by more and costlier service which it is necessary to furnish to the customers in order that more of them may be attracted and the store may become larger.

As long as the consumers' buying habits remain as they are, we will find large numbers of small stores in the convenience lines. Many will be poorly managed and poorly located; and many will fail. This probably does not add materially to the general cost of goods to the consumer. Stores that are losing money are apt to endeavor to attract patronage by reducing prices, or through the ignorance of

their operators, charge less than they should. This competition tends to keep prices lower in the other stores. The loss to society comes because resources are invested in the retailing business that would earn a higher return in other lines. It is quite probable, however, that no better judgment would be exercised in the choice of other avenues of investment as long as the capital remained in the hands of these persons; so that all the loss cannot properly be charged against the retail trade.

Problem

The largest single item in the cost of marketing is generally the cost of retailing. A study of 253 grocery stores in 1914 and 1915 by the Harvard Bureau of Business Research showed margins ranging from 14.6 per cent to 27.9 per cent net sales, with the common or average figure 21.0 per cent.

Discuss the prospects of large savings being made to the country by having the margins of all stores approach the lower figure.

PART III
ADMINISTRATION OF THE INDIVIDUAL
INCOME

CHAPTER XIII

THE CONTROL OF INDIVIDUAL EXPENDITURES

The principal economic problem of consumption from an individual viewpoint is the proper administration of income. Given a certain size of income, what constitutes the proper administration of that income? There are a number of parts to this problem, some of which are largely economic, and some of which are largely technical. First, there must be a distribution or budgeting of the income among its general uses. There are three possible uses of income. It may be spent, or saved, or given away. When the amounts going to each of these uses have been determined, the income must be administered in each of them, and each administration presents special problems. The recipients of the income going as gifts, and the amounts which each is to receive are to be determined; the proportion to be saved must be invested and cared for; the kinds and quantities of goods that are to be purchased must be decided upon. The latter usually commands a major portion of the income, and presents special problems. Once the kind and quantities of goods to be purchased have been decided upon, the manner and place of purchase must be considered. Goods need to be as economically purchased as possible. Finally, when the goods themselves reach the home, there still remains the technical problem of their preparation, care, and utilization.

1. The Lack of Objective Tests of Proper Expenditure.—The proper administration of an individual income is difficult because there are few definite tests of what constitutes correct expenditure. The business man may test the effect of certain expenditures upon his business by the very definite measures of its effect upon his profits. The housewife, on the contrary, must deal in rather vague

measures, such as the general welfare of the family, and can seldom be certain that a particular expenditure is the best. There are, however, certain steps which aid materially in the proper handling of the family resources. These steps consist, first, in the preparation of a budget; second, the keeping of accounts; and, third, the checking of these accounts against the budget with a comparison of the differences and the reasons for them.

2. The Budget.—The budget is the plan of expenditure. It can, of course, be made only roughly, as the precise situations in which the family will find itself cannot all be foretold. There is no “best” budget. It will differ with each group depending upon their age, composition, and desires. What would be a very good plan of expenditure for one family might be a very poor one for another. The determination of a successful budget requires a full knowledge of present needs and their relative importance, together with probable future needs, and as to which needs can best be unsatisfied without present or future loss. It is, of course, of some advantage to compare the expenditures or plan of expenditures with those of other families, but each family must make its own budget with due regard to its own peculiar needs.

There is a traditional classification of expenditures into five groups; shelter or housing, food, clothing, operating expenses, and a group of sundry expenses, variously called advancement, higher life, development, or personal expenses. Two additions need to be made to this classification; transportation, to cover chiefly the automobile expense, and savings. “Shelter or housing” includes the outgo for the rented or owned house as a structure, but includes no payments toward the purchase of the house or for its heating, lighting, cleaning, furnishing, or other outlays connected with the running of the house. “Food” includes the cost of the food materials purchased, but none of the costs of preparation, such as fuel for cooking, ice, cooking utensils, etc. “Clothing” includes the initial cost of the wardrobe, but not the cost of its upkeep, such

as cleaning, laundering, and the like. "Operating expense" includes all the miscellaneous expenses which arise in the housekeeping activities of the home, such as cleaning, repair of furniture, fuel, and light. "Personal expense" or higher life includes the remaining expenses of the family which have a personal connection with members of the family, for example, recreation, gifts, education, and travel. "Transportation" includes all expenses for the car, and likewise such other expenses as are incurred for ordinary transportation, omitting only such things as vacations and the like. "Savings" includes all prospective accumulations of the family.

The technique of the preparation of the budget consists, first, in an estimation of the probable income for the period. Next, there must be a careful estimation of the needs of the family for the period, and the probable expenditures involved in meeting those needs. This plan needs to be made with reference to the future, so that savings should be included as an item to be treated just the same as shelter or food are. Finally, the totals of the income and expenditures are compared. Expenditures should not exceed income, and for safety, income should be somewhat larger to provide for unforeseen conditions. Expenditures must be gone over and cut down until this margin appears. Each item and group must be examined, and the least essential portions eliminated.

3. Records and Accounts.—The second step in the administration of the individual income consists in the keeping of records of income and expenditures. These may be kept in specially prepared account books, or in ordinary blank books ruled into columns with headings similar to the budget divisions. There will be a record of all receipts and payments of money, giving for each item the date, amount, and such descriptive information as may be necessary to identify it later. The record will not take account of items charged, or items due, so that the difference in the items paid and received gives a "balance" that should equal the money on hand, in the bank, and

elsewhere. There is, in consequence, a check upon the adequacy of the record. It need not be exact, but should check fairly closely. The object of the record is not an exact accounting, but to furnish a basis for a subsequent analysis of lines of expenditure with a view of better adjustment. There is no need of burdening each member of the household with an exact accounting for every penny; the sums may be lumped at intervals under his personal allowance, but the amount going as a personal allowance should be exactly kept. The accounting is not an end in itself, but simply the means toward a much more important end.

The administration of the savings of the family requires that there should be at regular intervals an inventory of the property and debts of the family. There is no need of an elaborate accounting system for this information, but it should be complete enough to indicate precisely the nature and amounts of the various holdings and debts, and the purposes for which they are held. The differences between the property and debts of the family will represent the amount that would be left, could the family close out as a going institution and sell its property and pay its debts. A comparison of these records for a number of different dates will show the financial progress of the family. The difference between these capital accounts, and the accounts of income and expenditures may be illustrated by a piece of real estate. Rent receipts, payments for taxes, usual repairs, insurance, and the like, which occur year after year, would be a part of the income and expenditure accounts. The estimated sale value of the real estate and the mortgage against it, and the value of the house, if one were built on it, would all go into the record of property and debts. In short, this constitutes a record of what the family owns, together with the estimated sales values, and the existing debts of the family. The following representation of the yearly summary of income and expenditures, and the balance sheet of resources and liabilities will serve to indicate the difference in the two sorts of accounts.

A. Example of Income and Expenditure Summary for the Year.

I. Income:		
Salary		\$3,000
Interest		150
Rent		100
		<hr/>
		\$3,250
II. Expenditure:		
Rent		\$600
Food		720
Clothing		480
Operating expense		300
Personal allowance		300
Taxes (on land yielding income)		25
		<hr/>
		\$2,425
III. Net surplus or saving		\$ 825

B. Example of Balance Sheet or Resources and Liabilities on Dec. 31, 192—.

I. Resources or property:		
Cash in bank and purse		\$200
Savings-bank account		400
Liberty bonds		1,000
Other bonds		1,500
Value of house and lot		7,000
Life insurance (cash surrender value at this date)		1,000
Lot		400
		<hr/>
Total		\$11,500
II. Liabilities or debts:		
Accounts payable at stores		\$150
Mortgage payable		2,500
		<hr/>
		\$2,650
		<hr/>
III. Net worth		\$8,850

4. Checking Expenditures.—The final step in the control of expenditures is to compare the recorded expenditures with the budget proposed at the beginning of the period with view of the revision of the budget for the coming period. There should be a detailed examination of each line of expenditure to see whether some of the money spent might not have been put to other uses with greater advantage, or whether the expenditures in this line might

profitably be expanded. The following questions suggest the sort of examination that may be profitably made.¹

Have we saved a fair portion of our income, all circumstances considered?

Is the emergency fund in the bank large enough?

Have we sufficient life insurance?

Are we accumulating a fund for the children's education?

Would we save more in the long run if we spent money for labor-saving devices which would save health and energy?

What proportion of our total expenditures goes for food?

Are we spending too much or too little for any of the different food groups?

What has each type of home-canned or preserved food cost in comparison with commercial products of the same quality?

Could the time spent in canning have been spent to greater profit in some other way, as in sewing, for example?

What proportion of our total expenditures goes for clothing?

Is the clothing money fairly proportioned among the various members of the family?

Is it more economical in the long run to buy certain articles of clothing ready made or to make them?

What proportion of the family income is expended for health?

Has the larger proportion of the health expenditure been for cure or prevention?

Would more recreation, a vacation, or a different diet have any effect in reducing our expenditure for health?

Are operating expenses larger than necessary on account of poor equipment, such as stove or refrigerator?

Would it save money in the long run to put the house in better repair?

Are the items which are listed under "development" really such as will improve the living of the family?

Does any member of the family need more help in learning to handle his allowance wisely?

Do we spend too much on such things as candy, tobacco, and cheap magazines?

Do articles which we have bought at a certain store prove to be more expensive or less satisfactory than those bought at another store?

Where we have bought on the instalment plan, would we have done better to wait until we could pay cash?

Are there any articles which we buy in too small or too large quantities?

¹ U. S. Department of Agriculture, *Miscellaneous Circular* 68. "Planning Your Family Expenditure."

What articles have we purchased that we do not need? That will not wear well?

What articles which we bought should be listed as luxuries—that is, as things which we enjoy thoroughly—which are not harmful, but without which we could get along without detriment to our health or efficiency?

Is our automobile a necessity, a convenience, or a luxury?

Are our charge accounts a convenience or a temptation?

Problem

1. Make a list of the twelve most important questions which you think an ordinary family with an annual income of \$2,000 might consider in preparing their next year's budget.

2. What changes would you make in these questions for the \$3,000 level?

3. The \$5,000 level?

CHAPTER XIV

EMPIRICAL TESTS OF CORRECT EXPENDITURES

It is impossible to set out tests that will enable the consumer to determine whether he is deriving the largest possible satisfaction from the expenditure of his income. This is a matter which he alone can determine. Certain definite relations regarding measurable qualities of expenditure can, however, be pointed out, and the problem left at this point for the adjustment by the consumer to his individual case. For example, in the case of food, it can be pointed out that from a nutritive standpoint at certain relative prices one food constitutes a better purchase than another, but if the consumer has a particular liking for the more expensive food, he may receive a larger satisfaction from its purchase. Again, he may discover from a monetary calculation that it may be cheaper for him to rent than to own a home, but the additional satisfaction he derives from home ownership may far outweigh the differences in monetary costs. These sorts of decisions the consumer must reach himself, and such empirical tests as are set up must be subject to subsequent qualification in view of the individual circumstances of the particular consumer.

1. Suggested Budgets.—The tendencies toward a distribution of income along the general broad lines of expenditure have been discussed in Chap. VIII. The average of such budget studies, however, does not constitute a satisfactory criterion of proper expenditure.¹ It represents

¹ The existing budget studies have been prepared in such a manner that they tell us very little regarding proper expenditure. There is great need for studies which will classify the families into those consuming efficiently and those consuming inefficiently by empirical tests, and presenting comparisons between them.

simply an average of many families, most of them expending their money in a manner much less efficiently than it is possible to expend it. The efficient consumer would do much better.

Certain suggestions have been made at various times for the general division of the family's funds among the different budget groups. A much quoted rule from Ellen H. Richard's "Ideal Budget," suggested in 1900 for the family of five with a moderate income above the working-man's income level is: food 25 per cent or one-fourth; rent 20 per cent or one-fifth; clothing 15 per cent or about one seventh, and higher life expenditures 25 per cent or one-fourth.

Among other estimates which serve as helpful guides for spending by families are the Thrift Budgets of the Savings Division, United States Treasury Department.

These estimates are simply suggestions to serve as a guide in checking expenditures. They are to be looked upon in each case as probable maximums, except in the case of savings and insurance where a minimum is represented. When the particular family finds itself varying from them it should examine carefully those lines of expenditure which

TABLE XXXVIII.—THRIFT BUDGETS OF THE UNITED STATES TREASURY DEPARTMENT

\$1,200 a year, \$100 a month

	Members in the family			
	Two	Three	Four	Five
Savings.	\$10 00	\$7 00	\$5 00	\$3 00
Rent	16 00	16 00	16 00	16 00
Food	27 00	34 00	41 00	48 00
Clothing	13 00	14 00	15 00	16 00
Housekeeping expenses	10 00	9 00	8 00	7 00
Church, charities	6 00	5 00	3 00	1 00
Health, recreation, education	10 00	8 00	6 00	5 00
Personal, miscellaneous	8 00	7 00	6 00	5 00
Total for month	\$100 00	\$100 00	\$100 00	\$100 00

TABLE XXXVIII.—THRIFT BUDGETS OF THE UNITED STATES TREASURY
DEPARTMENT.—(Continued)

\$1,800 a year, \$150 a month

	Members in family			
	Two	Three	Four	Five
Savings.. .	\$27.00	\$21.00	\$15.00	\$10 00
Rent. . .	20 00	20.00	22.00	22 00
Food	37 00	44.00	51 00	58 00
Clothing	20 00	20.00	21.00	22 00
Housekeeping expenses.	11 00	12 00	12 00	12 00
Church, charities . .	10 00	9 00	8 00	7 00
Health, recreation, education	12 00	12 00	10 00	10 00
Personal, miscellaneous	13 00	12 00	11 00	9 00
Total for month. . .	\$150.00	\$150.00	\$150 00	\$150 00

\$2,400 a year, \$200 a month

	Members in family			
	Two	Three	Four	Five
Savings . .	\$50 00	\$41 00	\$31 00	\$21 00
Rent . . .	25 00	25 00	27 00	27 00
Food. . . .	40 00	48 00	56 00	64 00
Clothing.	22 00	25 00	28.00	30 00
Housekeeping expenses .	18 00	20 00	20 00	20 00
Church, charities . .	15 00	12 00	11 00	11 00
Health, recreation, education .	14 00	14 00	13.00	13 00
Personal, miscellaneous... .	16 00	15 00	14.00	14 00
Total for month	\$200 00	\$200 00	\$200 00	\$200 00

\$3,000 a year, \$250 a month

	Members in family			
	Two	Three	Four	Five
Savings	\$70 00	\$57 00	\$43.00	\$32 00
Rent.. . . .	30 00	30.00	35.00	35.00
Food	40 00	48 00	56 00	64 00
Clothing	30 00	33.00	36.00	39 00
Housekeeping expenses .	25 00	30.00	32 00	32 00
Church, charities	19 00	17.00	16 00	16 00
Health, recreation, education	18 00	18.00	16.00	16 00
Personal, miscellaneous	18 00	17 00	16.00	16 00
Total for month... .	\$250 00	\$250 00	\$250 00	\$250 00

TABLE XXXVIII.—THRIFT BUDGETS OF THE UNITED STATES TREASURY DEPARTMENT.—(*Continued*)

\$5,000 a year, \$416 66 a month

	Members in family			
	Two	Three	Four	Five
Savings	\$140 66	\$119 66	\$103 66	\$88 66
Rent .	50 00	50 00	60 00	60 00
Food	45 00	55 00	65 00	75 00
Clothing	45 00	50 00	55 00	60 00
Housekeeping expenses	50 00	60 00	63 00	65 00
Church, charities	36 00	33 00	27 00	25 00
Health, recreation, education	25 00	25 00	22 00	22 00
Personal, miscellaneous	25 00	24 00	21 00	21 00
Total for month	\$416 66	\$416 66	\$416 66	\$416 66

are in excess of the suggested proportions, as it is quite probable that items may be found in these lines of expenditures which may be profitably reduced.

2. Food.—Food expenditures are likely to constitute the largest budget item until incomes of around \$5,000 are reached. At the same time, this group offers one of the greatest opportunities for savings in the entire range of expenditures. The tests for the proper administration of the family's food have been quite adequately worked out as a result of the great amount of scientific work which has been conducted on nutrition. This work is largely technical, and only the major outlines can be touched here.

The classic grouping of food constituents is carbohydrates, fats, proteins, and minerals with a consideration of the vitamin content of the diet as well. Sugars and starches are the sources of carbohydrates. Lean meat, eggs, milk, nuts, beans, and peas are sources of proteins. Milk, fruits, and vegetables are the chief sources of minerals. Foods are compared on the basis of calories or energy units. One gram of protein yields 4 calories; 1 gram of fat 9 calories; and 1 gram of carbohydrates 4 calories. Mineral values appear outside of the calorie requirements.

The general standards which have been set for calorie distribution in the diet are as follows:

1. Protein may furnish 10 to 15 per cent of the total calories. They should approach the upper limit with growing children and nursing mothers, and the lower limit for those who have passed middle age.

2. Carbohydrates may furnish from 45 to 70 per cent of the total calories. They may supply as much as 70 per cent of the low-cost dietaries, and the percentage will drop in the higher-cost diets where more proteins and fats are used.

3. Fats may furnish 20 to 40 per cent of the total calories. The minimum allowance is 20 per cent, but where energy requirements are high and the digestive organs can handle them, they may run as high as 40 per cent.

The calorie requirements of the various members of the family differ. The following table from a standard work on nutrition shows usual requirements:

TABLE XXXIX.—CALORIE REQUIREMENTS FOR ADULTS AND CHILDREN OF VARIOUS AGES¹

	Calories
Man at moderately active muscular work	3,400
Man at hard muscular work	4,080
Man at light muscular work	3,060
Man at sedentary occupation	2,720
Woman at moderately active work	2,720
Woman at light work	2,380
Calculated for a man of 154 and a woman of 123 pounds.	
Children:	
	Calories
1 to 2 years	900-1,200
2 to 5 years	1,200-1,500
6 to 9 years	1,400-2,000
10 to 13 years	1,800-2,200
14 to 17 years (girls)	2,200-2,600
14 to 17 years (boys)	2,500-3,000

¹ Rose, M. S., "Laboratory Manual of Dietetics," pp. 8 and 11

Consumption of too many or too few calories over long periods will generally result in a gain or loss of body weight. Except in special cases, a close watch of the calories con-

sumed is not necessary so long as proper body weight is maintained. From the standpoint of economy, however, it is essential for the housewife to know about how many calories she gets in a pound of each food that she buys, and about how many calories she needs to get on the average for each dollar which she spends for food. The edible nutrient and food value tables of dietetic books must be studied for this information. Only in this way can a proper diet at a reasonable cost be worked out. The usual deficiencies of the diet are expressed in the following conclusion by Sherman and Gillet from their study of 92 city dietaries:

From these results it would seem as though the family dietary, at least among city people of limited means, is often relatively poor in energy and calcium, and sometimes also in iron or phosphorous. As the percentage expenditure for meat increases, the diet tends to suffer in energy. As the relative expenditure for grain products increases, the energy is increased. Calcium seems to be dependent to a large extent on the amount of milk used, and both iron and calcium are favorably influenced by increasing the proportion of expenditure for fruits and vegetables. In the average diet the expenditure for milk, vegetables, and fruit is much overbalanced by the expenditure for meat. If there were an equal expenditure for meat, milk, and fruit and vegetables, there is little doubt that the results in food value would be more favorable to a well-balanced diet.¹

Adequate dietaries can be obtained at costs of from 30 cents to \$1.50 or more per person per day in the family. The following extract from Andrews is probably representative of these costs:

In approximate terms, food cost varies at present from about 30 cents to \$1.50 or more per person per day, or from 40 cents to \$2 per day for the food required by the adult man. On the minimum level, food costs 30 cents per person per day and foods represent about 45 per cent of the total expenditure of a family of five. On the comfort level (\$1,800 to \$2,500) food costs 40 cents per person per day and is about 35 to 40 per cent of the whole budget. On the moderate level (\$3,000 to \$5,000) food costs 60 to 90 cents per capita, or from 30 to 25 per cent of the income. On the liberal level of \$10,000 or more, food

¹ SHERMAN and GILLET, "Adequacy and Economy of Some City Dietaries," p. 18.

costs may go from 90 cents to \$1.50 or more per capita, and represent 25 to 20 per cent or less.¹

3. Shelter.—The problem of whether it is cheaper to rent or to own a home can be answered only by a careful arithmetic calculation. The calculation will take form somewhat as follows:

I. Value of the house and lot Jan. 1	. \$
II. Rental cost of a similar establishment (can usually be figured at 12 per cent of the value of the house)	\$
III. Value of the house on Dec. 31. \$
IV. Cost of owning the house Jan. 1 to Dec. 31	
1. Interest on mortgage, if any	\$
2. Interest on investment on house at 6 per cent (since this is one of the costs of ownership) .	\$
3. Taxes for the year, with special assessments, if any	\$
4. Repairs for the year (one-half of 1 per cent or more of the value)	\$
5. Insurance on the house (1 year's cost, policies generally are longer)	\$
6. Depreciation in value of the house and land Jan. 1 to Dec. 31, I less III .	\$
Building depreciation should be estimated at least 1 or 2 per cent	
If the property has increased in value through land appreciation, the excess of III over I should be subtracted from the sum of costs 1 to 5	\$
V. Total costs for the year. \$

If V exceeds II, then it is cheaper to rent than own. This will very often prove the case, and the decision to own rather than rent must be reached because of other than these money-cost factors. It is advisable that the depreciation cost which is indicated under (6) should be actually set aside in a special savings account, and allowed to accumulate at interest to provide a fund to replace the dwelling when worn out. A 2 per cent depreciation fund accumulated at 4 per cent compounded annually will accumulate a sum equal to the original value of the house in 28 years.

¹ ANDREWS, B. R., "Economics of the Household," p. 287.

The general rule regarding the relation of the value of one's house to his income is that the value of the house should ordinarily not exceed two times his annual income. Thus a \$6,000 house is about in the right proportion for a \$3,000 income. If the purchase of a more expensive house is undertaken, the burden of the purchase and the annual upkeep will throw the housing costs out of line with the other family expenditures. When one is living on an income from investments, the general rule then is that one should not transfer more than about 12 per cent of one's capital into the home investment. If rentals are on a 10 per cent basis and investments are yielding 6 per cent, this will correspond to a 20 per cent expenditure for rent.

The costs of new construction vary between places and types of constructions. They may be roughly calculated on a per square foot or a per cubic foot basis. A useful procedure is to determine from a neighbor who has recently constructed a dwelling of a somewhat similar type its approximate cost and calculate its cost per square foot. The contemplated house may then be quite safely figured at this rate. Costs run about the same, regardless of shape, as long as the building remains rectangular, and does not contain many pronounced bays and jogs. The cost of house construction before the World War was estimated at about \$500 per room for frame construction, and in 1922 at from \$800 to \$1,000 per room. Thirty cents a cubic foot is the probable cost of the higher class of private homes.

The quantity of room per person necessary to prevent overcrowding is determined in several ways. One way is to determine the number of cubic feet of air space per adult and per child, 400 cubic feet per adult and 200 cubic feet per child is a commonly accepted standard. Such a standard, however, fails to consider ventilation which is equally important with cubic feet of air space as a factor of overcrowding. Another standard is in terms of the number of persons per room. Chapin's rule, from his

New York study in 1907, was that $1\frac{1}{2}$ persons per room, counting all rooms, constituted overcrowding. The commonly accepted higher standard is that there should not be more than one person per room. On the basis of this latter test, the average family is probably overcrowded.

4. Clothing.—The clothing expenditure for the family amounts, on the average, to about 15 per cent of the total expenditures. The investment in the wardrobe, that is, its capital value, is approximately equal to the annual expenditures on the low-income levels; at the moderate-income level it becomes about twice the annual expenditures, and at the very highest incomes it decreases again. The following standards are suggested by Andrews as to the division of the expenditure between the different members of the family:

With a low income, the man's clothing costs are higher than the woman's; in the standard of living of skilled workmen, the woman's clothing has come to cost as much as or even more than the man's, and it seems to grow more rapidly than the man's as income further increases. One might suggest as a maximum limit that a woman's clothing should never cost more than twice what her husband's costs.

The relation of children's clothing to that of parents' affords another standard for checking dress expenditures. The clothing of the high-school girl and the young woman still at home—and to a slightly less extent that of the high-school boy and young man at home—are likely to be extravagantly planned. Their clothing will cost much more, relatively, than the clothing of younger children. It seems a fair standard to suggest for all except minimum incomes that the clothing of the young man should generally not cost so much as that of his father, and, similarly, that the clothing of the young woman should generally not cost more than that of her mother. Certain conditions, as outside occupations and social demands, may increase cost of certain individuals, but a general rule as stated would tend to promote proper proportions.¹

Expressed in terms of dollars, the minimum level in clothing which provides suitable protection and decency in dress will require about \$225 to \$250 for the family. About \$70 each is required for the adult members of the

¹ ANDREWS, *op. cit.*, p. 344.

family, \$40 for the children from eight to twelve and about \$30 for a child up to four. If variety is added to these basic requirements, the cost will rise considerably. Where we reach a level which requires fabrics of good quality and of standard designs, the costs will have risen to say \$700 to \$900. This level is maintained by those with incomes of from \$4,000 to \$5,000. Here the man will require from \$175 or more, the woman \$200 or more, and the children from \$60 to \$150, depending upon their age. Clothing expenditures of those with very large incomes are too varied to permit generalization.

When the expenditures of people for clothing are compared with standards set up outside, the expenditures are usually below the standard. For example, the clothing standard of the Bureau of Labor Statistics was determined after the completion of the survey of 12,096 families. The standard allots \$513.72, while the families actually spent \$238.10, about 46 per cent of the standard set. Not only was the expenditure smaller than the standard set but it was also poorly distributed.

5. Operating Expenses.—The proper administration of operating expenses is a problem principally of the administration of the housewife's time. This involves the most economical performance of the tasks, and the decision as to whether certain equipment or services are to be purchased.

Probably the most difficult of the problems arising in the administration of this portion of the income is that of deciding whether to instal labor-saving devices or not. For purposes of illustration, let us suppose that the problem is whether or not to purchase a vacuum cleaner. The money cost of the permanent equipment must first be calculated. This cost includes interest on the money value of the machine, the probable repairs and maintenance necessary to keep it in running condition, and a depreciation charge to cover the annual value used up and to replace the machine at the end of the period. These together will constitute the operating costs of the labor-saving device.

For purposes of illustration, let us suppose the investment is in a vacuum cleaner costing \$60 and expected to last 10 years. The interest charge for the first year at 6 per cent would be \$3.60. Suppose repairs and maintenance to run about \$1 per year. The depreciation may be figured at \$6 per year. The total costs of equipment are thus \$10.60 per year or about 20 cents per week. To this must be added the power cost, say 10 cents a week, making a total cost of 30 cents per week. Against this there must be compared the other methods of cleaning and their cost. A comparison of these methods will usually show one involving a larger money outlay and a smaller outlay of the housewife's time, and the others smaller money and larger time outlays. In consequence, there is involved a valuation of the housewife's time; and this will vary in each household, and between different periods.

From a purely economic viewpoint, the problem is one of opportunity cost. It is a question of what the housewife would be able to do with her time if she were not engaged in this particular task. If she had no other economic use for her time no charge could properly be made for it. Where there are other economic uses for her time, then the time saved must be counted at its value in its most important other possible use. For practical purposes, the manner in which the calculation might be made is to calculate the difference in the money cost of performing the task with and without the use of the labor-saving device, and to divide this sum by the number of hours saved, to determine the money cost of saving each hour. The housewife can then compare her estimate of the value of her time which would be saved with the cost of saving that time, and reach a decision as to the desirability of installing the labor-saving device.

In the case of things which do not involve the valuation of the housewife's time calculations can be made more easily. Thus, the problem of the cheapest fuel for heating is a quite definite and exact calculation. Suppose a person is heating a house and using coal, a calculation of

the cost of heating per day by different kinds of coal and coke can easily be determined with a little experimentation. Additional calculations are, of course, also involved; for example, the burning of soft coal will quite probably increase the cleaning cost for the house.

Another important aspect of the administration of operating expenses is in the budgeting of the housewife's time. This phase of the administration is worthy of careful consideration. There should be particular times and methods of performing all tasks that can be reduced to routine, and tasks should be compared as to their importance and possibilities of more efficient performance. Most attention should be devoted to more efficient performance of tasks consuming the greatest amount of time. A number of studies have been made of this problem of which the following is an illustration: An annual record was kept of the hours spent on each line of work for a family of three in a seven-room house. The annual total was 2,646 hours of work or an average of about $7\frac{1}{4}$ hours per day. The work done once a week amounted to 17.7 per cent of all the work, that done each day to 77 per cent of the total, the remaining 5.3 per cent being done once a month or at some longer period. The 2,518 hours of daily and weekly tasks were divided as follows:

TABLE XL.—TIME REQUIRED FOR HOUSEHOLD OPERATIONS¹

Weekly cleaning	3 hrs. 25 min. per week	186 hrs. per year
Weekly laundry	5 hrs. 5 min. per week	264 hrs. per year
Daily cleaning	1 hr. 10 min. per day	426 hrs. per year
Daily cooking	2 hrs. 5 min. per day	760 hrs. per year
Daily baking	1 hr. 0 min. per day	365 hrs. per year
Dishes (supper and breakfast)	0 hr. 30 min. per day	426 hrs. per year
Dishes (dinner)	0 hr. 40 min. per day	
Furnace and water-pressure tank (average)	0 hr. 15 min. per day	91 hrs. per year
Total	...	2,518 hrs. per year

¹ ROWE, MARY, "Time Necessary to Do Work in a Seven-room House for a Family of Three," *Journal of Home Economics*, 1907, pp 569-573

6. Personal and Advancement Expenses.—The administration of the personal and advancement expenses is largely a matter of individual preferences. For the majority of these expenditures, no tests can be applied. The single exception is in the case of insurance and investment, to which the following chapter is devoted.

Problem

1. In what fields of consumption, and to what extent do you think it possible to work out scientific criteria of efficient consumption?
2. Assuming that such criteria can be established, how would you advocate informing consumers of them?

CHAPTER XV

INSURANCE AND INVESTMENT

Each family or individual usually needs to set aside a portion of their income in the form of savings and investment to provide for exceptionally large necessary expenditures, often unforeseen, encountered during the prospective earning life, and to provide for an income during non-earning periods due to disability or old age. There should be a definite plan carefully worked out and adjusted to the particular conditions. The nature of the plan, the amount to be accumulated, and the rate of accumulation will, of course, vary with the individual circumstances, and few generalizations can be made. The problem for an individual, for example, will be quite different from that for a family.

1. The General Plan.—The most advisable plan for an ordinary family with a medium income will usually include the following, indicated in their order of relative importance:

1. The purchase of sufficient life insurance to provide for the dependents in case of the death of the income earner, and to provide for the more pressing needs of the family in case of his disability.

2. Regular additions to savings accounts to provide a quick reserve for emergencies, and accumulations for the other purposes decided upon in the investment policy.

3. The purchase of a house where the family remains in the same place for a considerable time, and which can be bought on a basis not exceeding the cost of renting a similar place.

4. The building of an estate through the investment of additional funds in sound securities.

Even in the case of business men, it is desirable that there be built up separately and distinctly from the business this group of investments representing the private or family estate.

2. Insurance.—Mankind is exposed to many serious hazards, such as disability or premature death, which, in the case of an individual, it is impossible to foretell or prevent. When, however, the record of a large group under similar conditions has been obtained, it becomes possible to foretell quite accurately the happenings within the group. Many phenomena which are unpredictable as unique events become readily predictable in groups of sufficient size. Thus the probable life of a man thirty years of age is extremely uncertain, but if 100,000 men of age thirty in sound health are taken, it is possible to determine from available statistical data, with a very small degree of error, the number who will die each year.

The standard device for calculating the probability of death is the American Experience Table of Mortality. Starting with 100,000 persons at age 10 it gives the number living and dying during each year. As a matter of fact, the table is not particularly accurate in that fewer die than the table indicates. The following extract shows the data for the first 2 years and by 10-year periods:

TABLE XLI.—AMERICAN EXPERIENCE TABLE OF MORTALITY

Age	Number living	Number dying	Expectation of life
10	100,000	749	48 72
11	99,251	746	48 06
20	92,637	723	42 20
30	85,441	720	35 33
40	78,106	765	28 18
50	69,804	962	20 91
60	57,917	1,546	14 10
70	38,569	2,391	8 48
80	14,474	2,091	4 39
90	847	385	1.42

Expectation of life means the average number of years those living at a particular age will continue to live. It is

the sum of the additional years each person lives divided by the number living at the age taken. From these data may be calculated the precise amounts that must be collected in order to provide sums to pay the different types of policies.

These data enable the insurance company to write three distinct forms of contracts. The first of these is the *straight insurance* contract. From the standpoint of the individual, the insurance contract consists of an agreement with an insurer whereby the latter agrees to pay the insured or his beneficiary a stipulated sum upon the happening of some specified event, for example, death, in return for which agreement the insured contracts to pay certain sums, called "premiums," at definite intervals of time. The second type of contract is the *pure endowment*. This is an agreement to pay to a specified person a certain sum if that person is living at the specified time. Such contracts are rarely written. They are, however, often combined with insurance contracts to form endowment insurance. The third type of policy provided by insurance companies is the *annuity*. An annuity is an agreement to pay to the holder of the annuity certain specified sums, usually equal annual amounts, during the life of that person.

These contracts are unilateral contracts. That is, the insured may cancel the policy at any time, and may, under certain conditions, recover a portion of what he has paid, while the insurance company is bound by the contract as long as the insured fulfils his obligations. The insurance contract usually involves a third party, the beneficiary to whom the insurance is to be paid at the time of death of the insured. The beneficiary may be definitely fixed at the time the contract is entered upon and not subject to change, or more usually the policy contains a "change of beneficiary" clause which permits the insured to change the beneficiary at will.

Insurance policies may be classified according to their term, or the length of period which they cover. A *term*,

insurance policy provides insurance for a stipulated number of years. If the policy expires before the death of the insured, the obligation of the insurer is cancelled. They run ordinarily for 5, 10, or 20 years. Some policies are *renewable-term* policies, which means that the insured is entitled, at some time stated in the policy, to take out a new contract without physical examination at the rate he would pay if he were a new applicant at the age of renewal. A *convertible-term* policy means that the insured may change to some other type of policy during the period specified, paying the premiums that would be due if he were taking out a new policy at the time of conversion. In addition to term policies, there are *whole-life* policies which provide insurance during the entire life of the insured.

In addition to these regular contracts which are written for straight life insurance, contracts are written which include the *endowment* feature. These consist of a combination of a pure endowment, and a term-insurance policy. They are customarily written for 15, 20, or 30 years. The person purchasing an endowment policy, for example a 20-year endowment, has a contract which agrees to pay to his beneficiary a certain sum at his death if it occurs within the stated period, or the same sum to the insured if he is living at the end of the period.

Contracts differ in their manner of premium payment. Each may be purchased by the payment of a lump sum at the beginning. This is termed a *single-premium* policy. Annuities are purchased in this way, but insurance and endowments rarely. The more usual methods, for the latter, involve annual, semiannual, or quarterly payments of premiums. The policy may be a *limited-premium* policy, in which case the premiums are paid during only a part of the life of the policy. The 20-payment life-insurance policy would be an example of such a policy. The holder of such a contract agrees to pay the insurer premiums for 20 years; during that period he is insured for the face of the policy, and at the end of the period the policy becomes

a paid-up policy continuing for the remainder of his life. Payment of premiums for many policies continues for the life of the policy. Thus in the case of an *ordinary* life-insurance policy, the insured continues to pay premiums as long as he lives. The premium which is paid on insurance ordinarily remains the same year after year. Such a method of paying premiums is called the *level-premium* plan. Nearly all of the insurance written in this country is on the level-premium basis. Where the premiums change year by year according to the risks of the particular year, they are paid upon the *natural-premium* basis. Such policies are rare.

Policies differ as to the number of persons which they insure. Insurance policies are commonly written on the life of a single individual, but occasionally *joint life policies* are written which cover the lives of two or more persons, and are payable upon the death of the first. Policies are also written upon larger groups and are known as *group insurance*. They differ from joint life policies in that they are not terminated by the death of one of the individuals. Employers often secure blanket insurance against the death of their employees, payable to the families of these employees on their death. Such policies are group-insurance policies. They are not written on specific individuals but on all who are employed by this particular employer, and often only during their period of employment.

The great bulk of the insurance written in this country is by regularly organized companies, although there is some provided by fraternal or assessment associations. The insurance companies fall into two groups, known as "stock" and "mutual" companies. The volume of business done by mutual companies is in excess of that of the stock companies, although the latter exceed the mutual companies in the number of individual companies. Mutual companies are, as the title suggests, owned and controlled by the policy holders, while stock companies are, of course, owned and controlled by the stockholders. Policies vary

according to their right to share in the profits of the company. *Participating* policies provide for the return to the insured of a portion of his premium, known as a *dividend*, in the event that the earnings of the company justify such a dividend. Non-participating policies carry no such right to share in the earnings of the company.

After an insurance policy has been in force a certain number of years, 2 years in some companies, and 3 in others, the policy has a certain value, even if no more premiums are paid. These values are guaranteed by the company and form a part of the provisions of the contract. They differ, of course, with different sorts of policies, and in different companies. The guaranteed values for an ordinary life policy taken at age 25 in one of the large mutual companies are given below:

TABLE XLII.—GUARANTEED VALUES OF AN ORDINARY LIFE POLICY TAKEN AT THE AGE OF TWENTY-FIVE IN A CERTAIN MUTUAL COMPANY

Years policy has been in force	Loan value, dollars	Cash- surrender value, dollars	Paid-up life insurance, dollars	Extension	
				Years	Days
3	20	22	59	2	297
4	27	29	77	3	263
5	34	37	96	4	277
6	42	45	117	5	328
20	216	230	457	19	166

The figures in the column headed "loan value" indicate the amount which the company will loan on the policy after the premiums for the particular year have been paid. Thus, when the third year's premiums have been paid, the company will loan \$20 on each \$1,000 of insurance held. The cash-surrender value indicates the amount the company will pay for the surrender of the policy to them with a cancellation of their obligation to the insured. Instead of accepting cash in surrendering the policy, the insured may take either the amount of paid-up insurance

indicated, in the form of a fully paid-up policy for that amount, or have his present policy continue for the time indicated under extended insurance without any further payments. The paid-up insurance and extended insurance guaranteed, depend, of course, upon the cash-surrender value, and represent the amount of that particular sort of insurance which a sum equal to the cash-surrender value would purchase in the company. The guaranteed values form valuable additions to the insurance policy. The loan values form a sure source of funds during financial strains, either to pay premiums or for other uses. Unfortunately, these loans are seldom repaid, and the practice amounts virtually to borrowing from the beneficiary. The extended insurance privilege is sometimes used as a means of continuing the policy without the payment of premiums. Thus, if a person had taken out a straight life policy at age thirty and paid premiums for 25 years, he could stop paying premiums, and still be insured for the entire amount until about seventy-three years old.

The insured has the right to designate the manner in which proceeds of the policy are to be paid to the beneficiary after his death. The settlement may be made in the form of a cash payment in full. It may also be made in instalments covering a period of years, in which case there is an allowance for interest which materially increases the sum to be paid. Instalment settlements are usually for a period of years, say 10 or 20, but most companies will write into their policies any sort of a payment plan that is desired. For example, such a special provision might be the payment to a son of \$50 per month until the age of eighteen, then \$100 per month until twenty-five years of age, and the balance of the insurance estate at the end of the period. Instalment provisions are made sufficiently elastic to provide for any sort of a settlement desired. The proceeds of a policy may also be paid in the form of an annuity, that is, a certain annual payment for the entire life of the person to whom the proceeds are to be paid.

Policies are often written with special provisions covering the "disability" of the insured, or special indemnities or payments in case he meets his death in certain kinds of accidents. *Disability* provisions usually provide that the insurance company will continue the policy in its original form without the payment of premiums, in case the insured becomes permanently disabled, and a sum equal to 1 per cent of the face of the policy per month until recovery. *Double indemnities* provide for a payment of twice the face of the policy in case the insured meets his death by accident.

Insurance policies differ in their cost, depending upon the nature of the policy. Premiums vary with the age of the person insured. The higher ages have greater risks of death than the lower ages, and, in consequence, for a given type of policy the premium rates increase with the age at which the insurance is taken out. The most inexpensive policy, from the standpoint of the annual outlay required, is the term policy, and the shorter the term, the lower the annual premium. Straight life will cost more than term because of the greater risk for the insurance company. Limited payment will necessitate a larger premium than straight life, because the period during which the fund to pay the insurance is accumulated is limited, rather than extending over the entire life. Premiums for endowment insurance will be much higher than those of the preceding types, since, in addition to the insurance provided, a fund equal to the face of the policy must be built up during the policy life to provide the endowment at the end of the period. Other types of policies will vary in cost depending upon their particular features. Straight life, 20-payment life, and 20-year endowment are the principal types of insurance written in this country.

Certain policies are better adapted than others to meet the special needs of the insured. The policies in a particular company are quite likely to have the same mathematical value, but certain types are better adapted to the particular family, or to the business circumstances of the particular

individual. A careful selection of the particular policy to fit these special needs is essential. A few hypothetical examples of problems, and the way they may be met through insurance, will illustrate these special adaptations. For example, a salaried man is buying a house which he is paying for in monthly payments over a period of 5 years, and which he desires to leave to his family unencumbered in case he dies before he has finished paying for the house. The house is costing him \$5,000. This contingency might be provided for by taking out five \$1,000 term policies, and dropping them one by one as successive increments of \$1,000 were paid on the house. Term policies are chosen because they are the cheapest, and he has no interest in being insured in this way after the house is paid for. Suppose another man were interested simply in providing protection for his family in case of his death. He would, in all probability, choose straight life insurance since he could carry more protection continuously on a given annual sum than with other types of policies. If, on the other hand, a person were concerned not only with providing insurance for his family in case of death, but also with providing an income for himself in old age, he would select some sort of a long-term endowment. If it were a problem of having a sum of money to provide a university education for his children, a short-time endowment insurance on his own life, or a pure endowment on the life of the child might be used. Other special conditions might be met with other policies. For those who are well along in years and have no posterity to consider, the annuity offers a valuable means of insuring them the largest possible certain income for their entire life. The interest rate at which the insurance companies figure earnings is low, and, in consequence, for young people annuities do not yield more than could be earned by investing in the market. For older people, the rate becomes high, passing 8 per cent sometime between ages fifty and sixty. The following table shows the average annuity returns for 15 American companies for males of different ages:

TABLE XLIII.—AVERAGE OF THE RETURNS YIELDED BY ANNUITIES TAKEN AT VARIOUS AGES IN 15 AMERICAN COMPANIES¹

Age	Per cent yield by annuity
40	5 83
50	7 03
60	9 21
70	13 27
80	19 35

¹ HARDY, "Risk and Risk Bearing," p 278

The amount of insurance to be carried by an individual depends upon the special business and family circumstances surrounding that individual. Important executives are often heavily insured by their business, some as high as several million dollars. A father with a dependent wife and children who will have no other source of income should probably carry enough insurance to provide an income of from one-third to one-half of the family's present income. Those with no dependents need provide little more than burial expenses.

It is wise to take insurance in a number of small units rather than in single large ones. It is more convenient, in arranging complicated methods of payment and providing for unforeseen difficulties, to have five \$1,000 policies than one \$5,000 policy, or four \$5,000 policies rather than a single \$20,000 policy. The size of the minimum unit depends upon the size of the estate. The costs for a given amount of insurance are the same regardless of the size of the policies in which that insurance is taken out. It is also wise to provide for all possible contingencies which may arise with regard to beneficiaries. This avoids the expense of probating the estate, an expense which amounts to a considerable portion of the estate when the estate is small in size. For example, the policies of a husband having a wife and two children should provide the method of paying the insurance on his death, after his wife's death, on the death of both of them, and on the death of himself, the wife, and either child.

3. Savings.—The financial independence of most families is attained only through systematic saving and investment. Even small savings, when consistently followed, result in a surprisingly rapid accumulation of funds. Table XLIV shows the rapidity with which \$10 invested monthly at various rates of interest will accumulate.

TABLE XLIV.—ACCUMULATION OF PRINCIPAL AND INTEREST FOR GIVEN PERIODS AND RATES OF INTEREST BY CONTINUOUS MONTHLY SAVINGS OF \$10

Years of accumulation	Interest rate			
	4 per cent	5 per cent	5½ per cent	6 per cent
10	\$1,474 83	\$1,555 03	\$1,597 06	\$1,640 44
15	2,462 45	2,672 58	2,785 66	2,904 48
20	3,666 36	4,103 13	4,344 68	4,603 25
25	5,133 91	5,934 36	6,389 58	6,886 25
30	6,922 85	8,278 49	9,071 78	9,954 41
35	9,103 55	11,279 17	12,589 88	14,077 77

Table XLV presents the same material in a different form, showing the amounts required to be saved to accumulate \$10,000 in different periods of time at various rates of interest.

TABLE XLV —MONTHLY AMOUNTS REQUIRED TO ACCUMULATE \$10,000 IN VARIOUS PERIODS OF TIME AT DIFFERENT RATES OF INTEREST

Years for accumulation	Rate of interest			
	4 per cent	5 per cent	5½ per cent	6 per cent
10	\$67 80	\$64 31	\$62 62	\$60 95
15	40 61	37 42	35 90	34 43
20	27 28	24 37	23 02	21 72
25	19 48	16 85	15 65	14 52
30	14 45	12 08	11 02	10 05
35	10 99	8 87	7 94	7 10

The proportion of the current income which it would be necessary to save and invest at a given rate of interest in order to accumulate a sum, which sum invested at the same rate of interest would produce an income equal in

size to the current income, is given in Table XLVI. If a larger or smaller income were desired, the proportion of the present income to be saved would bear the same ratio to the figures in the table as the desired income bears to the current income. For example, if the income desired were half the current income, to begin in 20 years, and the interest rate were 3 per cent, the proportion of the current income to be accumulated would be one-half of 124 per cent or 62 per cent of the current income.

TABLE XLVI.—THE PROPORTION OF CURRENT INCOME TO BE SAVED AND INVESTED IN ORDER TO RETURN A SIMILAR INCOME AT THE END OF A GIVEN PERIOD WITH THE SAME INTEREST RATE

Years for accumulation	Rate of interest			
	3 per cent	4 per cent	5 per cent	6 per cent
20	1 24	0 84	0 54	0 45
25	0 91	0 60	0 42	0 30
30	0 70	0 45	0 30	0 21
35	0 55	0 34	0 22	0 15

The following computations are illustrative of the kind of calculations that need to be made in order to determine the proper amounts to be accumulated and to be saved.

PRESENT AGE, THIRTY; INCOME DESIRED TO BEGIN AT SIXTY YEARS OF AGE.

INTEREST AT 5 PER CENT. YEARS FOR ACCUMULATION, THIRTY.

INCOME DESIRED, \$3,000 ANNUALLY

I. Sum required at sixty years of age to produce income desired . . \$60,000

II. To be deducted:

1. Present income-bearing assets (bonds, etc.).. \$ 5,000
2. Interest on present assets compounded. . . 8,266
3. Cash value of life insurance at 60. 12,000

Total deductions. \$25,266

II. To be added:

1. Liabilities (notes, mortgages, etc.).... 5,266

III. Sum to be accumulated \$40,000

IV. Monthly investment required to secure accumulation (see Table XLV) . . . \$48 32

The illustration is, of course, hypothetical, and those of the particular case in question are to be substituted in the actual calculation.

Savings banks are the institutions usually used for the accumulations of small savings into amounts large enough for advantageous investment. They are institutions primarily for the accumulation of principal. The interest rate is ordinarily quite low, 3 or 4 per cent, and is a secondary consideration. Their major function is the provision of safety for the accumulated funds. These savings institutions may be classified as public or private. Private institutions fall roughly into three groups, mutual or trustee savings banks, stock savings banks, and cooperative savings banks. The latter are found only in Europe. The public institutions in this country are the postal savings banks.

Mutual or trustee savings banks in the United States are found mainly in the manufacturing towns and centers of New England and the Eastern States. The mutual or trustee savings bank does not possess any capital stock. The depositors are the mutual owners of the bank. All the earnings of the bank, less administrative expenses and apportionment to the guarantee fund or surplus, are divided among the depositors in the form of interest. The funds of the institution are derived solely from the deposits. The institution is not managed by a board of directors but by a body of non-depositing trustees. They usually hold office for life, and are generally prominent business men who render this service as a public duty.

Stock savings banks are principally a Middle West institution. They differ from mutual savings banks only in their ownership. The mutual bank belongs to the depositors, the stock bank to the stockholders. The mutual bank pays its dividends to the depositors, the stock bank pays its dividends to the stockholders. The stock bank usually pays its depositors a stipulated rate of interest and the profits accrue to the stockholders. The stockholders have a double liability for their stock; that is,

they may be called upon to furnish an additional amount equal to their stockholdings in case the bank encounters difficulties. This furnishes a slightly greater protection to the depositors than would be found in the case of a mutual bank. After the bank has accumulated considerable surplus it will not be of great importance, but in the case of new banks, the difference in safety, as far as the depositor is concerned, is significant.

Many commercial banks maintain separate savings departments. The Federal Reserve Board and the banking departments of the various states require a separate accounting of these deposits, and the reserve requirements and investments of this portion of the funds are regulated. The assets of the bank, however, are the common property of all depositors, whether in savings or checking accounts, and since savings banking is ordinarily less risky than commercial banking, there would be less risk with funds in a regular savings bank than with funds in the savings department of a commercial bank.

The system of saving provided by the federal government consists of two parts, the Postal Savings Banks and the United States Postal Savings Bonds. In December, 1925, there were 5,896 post offices, which were a part of the system, with total deposits of \$132,173,211. Deposits are made in full units of a dollar, but stamps in denominations of 10 cents can be affixed to an official card until a dollar is accumulated. Evidence of deposit consists of a Postal Savings certificate which bears 2 per cent interest for each full year that the money remains on deposit. These certificates are non-transferable and non-negotiable. Postal savings certificates are exchangeable in amounts of \$20 or more for postal savings bonds. These latter bear a $2\frac{1}{2}$ per cent interest rate. No person may ordinarily have a deposit account in excess of \$1,000 except by special authorization. With such authorization, additional deposits may be accepted "not to exceed in the aggregate \$1,000 for each depositor, but upon which no interest shall be paid." This limitation, however, does not affect

the holding of the postal savings bonds. The postal savings system is largely utilized by immigrants, although many others might use it with profit.

Building and loan associations may be useful either as sources of funds for home construction, or as means of accumulating a sum of money. For the small investor, building and loan association stock offers one of the best investments open to him when the conditions under which the investment is made are thoroughly understood. All cooperative associations operate in terms of shares of stock purchased by members on weekly or monthly payments. These shares have a paid-up value ranging from \$50 to \$500, depending upon the particular company. An association with shares of a paid-up value of \$200 usually provides for the payment on these shares to be made at the rate of \$1 per month until the \$200 has been accumulated. The accumulation of the par value is accelerated by the payment of dividends, generally at 6-month intervals, from the earnings of the company, and paid in proportion to the amount of the value of the share at that time. These dividend rates are quite high, usually 7 per cent, so that the stock is likely to mature in 11 or 12 years. When the share matures, the \$200 can be drawn out. Withdrawals of amounts paid in and dividends can also be made before that time.

The membership fee is a distinct feature of most building and loan associations. This is a fee paid for the privilege of buying shares in the company. The fee is applied as the first payment on the shares of stock, but is not subject to withdrawal until the shares are fully paid. It amounts to about one-third of the first year's payment. Some building and loan associations do without the membership fee, but this is not a general practice. Some associations have small fines for late payments, but most of them permit payments to be made when desired. The chief advantages to the small investor are the relative safety of the investment, the high rate of interest that is obtained when the plan is carried to maturity, and the ready with-

drawal of a portion of the funds. The membership fee is lost if the contract is cancelled early in its life and the interest rate will prove small, or there may even be a loss under such circumstances. The plan is profitable only when carried to maturity, or at least for a considerable period of time.

The building and loan association loans money to the borrower on proper security. This usually consists of a first mortgage on the real estate, together with a contract whereby shares in the association, equal in par value to the loan, are taken out and pledged to the association. The shares become the property of the association as a payment of the loan when they mature. The plan thus provides for a gradual retirement of the loan. The borrower pays interest on the loan and an additional monthly amount on the loan. Suppose, for example, a person borrows \$3,000 from the association for the purpose of building a house. In order to secure the loan, it will be necessary to subscribe for shares that will have a value of \$3,000 when paid up. If the shares have a paid-up value of \$200 each, 15 shares will be necessary. The borrower will pay \$15 per month on these shares and if the loan is made at 6 per cent, \$15 a month as interest on the loan, making a total of \$30 per month. The interest carries the loan, and the dues accumulate to retire the loan after the shares become fully paid. The advantage to the borrower arises from the amount which the building and loan association will loan on his property. An association will loan often 65 to 75 per cent and sometimes as high as 80 to 90 per cent of the whole investment, while a bank will seldom advance over 50 to 60 per cent of the total value. The interest charge is relatively high. This is a method of paying off a mortgage rather than carrying it.

4. The Purchase of a Home.—There are several methods generally used in purchasing a home. The method used depends largely upon the available funds which the family has for this purpose. If they are fortunate enough to have sufficient funds to pay all cash, then they may purchase

outright. Where their funds are insufficient to provide the entire amount, they must purchase by paying a portion of the amount, and giving a mortgage for the remainder, or purchase on a contract for deed. Mortgages are pledges of real estate to guarantee money loans to the owners of property. In case the provisions of the mortgages are not fulfilled by the mortgager, the holder of the mortgage may secure possession of the property after proper legal action. First mortgages usually do not amount to more than 60 per cent of the value of the property. They customarily run for periods of 3 or 5 years. Another method of purchasing is through a building and loan association mortgage handled in the manner previously described. This requires a payment of perhaps 25 to 35 per cent cash down, and a mortgage running 10 to 12 years paid off in monthly instalments on the interest and principal. Companies which build houses often sell them on a contract for deed with a mortgage on the property in addition. A small payment will be made in cash, often as low as \$500 or \$1,000. A mortgage will be given for 50 or 60 per cent of the value of the property, with the mortgage running about 5 years. The remainder will be secured by a contract for deed, calling for sufficient monthly payments to pay it off in a short time. The house remains the property of the builder until the payments called for in the contract for deed have been completed. The new owner then secures the deed to the house, and owns it subject to the mortgage against it. Many insurance companies also have plans for home purchase, providing for a payment of the principal and interest in regular instalments, and the delivery of the deed to the beneficiary in case of the death of the person taking the policy.

5. Investment.—The “ideal investment” should have a high degree of safety of both principal and interest, yield a large return to the investor, be readily marketable, and free from taxation. It is impossible to secure all of these qualities in their highest degree in a single investment. For example, the bonds of the United States government

carry a high degree of safety of principal and interest, but a low yield; certain bonds of foreign governments promise high yields, but carry little safety of principal and interest; real estate mortgages may yield well but may not be readily marketable. All of these qualities are not necessary in the same degree for all investors, and since each of these desirable qualities must be paid for in the market, investments must be selected to suit individual requirements.

The most important attribute of an investment from the standpoint of the beginner is safety. Safety is a relative term and should be thought of as such. To seek only the securities which enjoy the greatest safety is not always the wisest policy. A certain amount of risk may be accepted and the security may still remain high grade. The limit to which one should go depends upon the position of the investor. The business man with large commercial interests can assume more risk than the retired college professor or widow, who depends entirely upon his or her investment for income.

There are a number of professional services which compile and publish detailed information about all securities in which there is popular interest. These services can be consulted at investment houses and at many public libraries. The four leading publications, excluding periodicals, are Standard Statistics, Moody's, Poor's, and Fitch. For example, the Moody service publishes annually a rating book in four sections, covering the principal issues in railroads, public utilities, industrials, and municipals. The issues listed in these volumes are rated or classified as to their relative ranking among securities. Thus, *Aaa* as a rating indicates what is believed to be a security of the highest type, while *D* indicates the lowest rank. Bonds rated below *B*, for example, are outside the investment field.

In order to secure safety in investment, securities should be purchased only through a reliable house. Such a house has a reputation to maintain, and will not recommend the purchase of securities of doubtful standing. The securities of any company that does not publish its financial state-

ments are not desirable investments. There is no intelligent way of judging the true value of such securities, and so many companies publish their statements, that the investor will do well to confine his purchase to these issues. The securities of a company that is in a development stage are speculations and not investments. They can be classed as investments only after the company has clearly demonstrated its earning power. This period will ordinarily be at least 5 years.

Additional safeguards may be secured by a distribution of investments. This distribution may be accomplished by: (1) limiting the amount involved in any one investment; (2) limiting the amount invested in any one line of business or industry; and (3) distributing investments over more than one geographical area. Proper distribution of investments will also secure a difference in maturity and in income dates. Distribution is desirable since it lessens the risk of loss. All lines of business and geographical areas are not similarly affected by charges.

Ready marketability is another requirement of a good investment. This implies the ability to convert a security into cash at relatively short notice without the sacrifice which frequently accompanies a forced sale. Banks and business men buying securities for the purpose of utilizing temporary funds need ready marketability. The ordinary investor does not need such ready marketability. Marketability costs money, and the investor should purchase no more of it than he actually needs. It amounts to a difference of $\frac{1}{2}$ to 1 per cent in yield for securities equally good in other respects. The most ready marketability is generally found in securities listed on some exchange, preferably the New York Stock Exchange.

Certain securities enjoy tax exemption while others are subject to large tax burdens. The tax position of the security is, in consequence, of considerable importance to the investor. The most important taxes, from the standpoint of the investor, are usually the Federal income taxes. Investors with large incomes, in consequence, seek securities

which are tax exempt, and will pay more for a tax-exempt than for a taxed security of similar strength in other respects. The small investor does not need this tax exemption, and can, in consequence, usually purchase non-tax-exempt securities more profitably. Securities are subject to many sorts of taxation other than Federal income taxes, *i.e.*, state income taxes in certain states, federal estate taxes, state inheritance taxes, and so on. Where the estate is large, careful consideration of the tax position by an expert is well worth while.

Securities which the investor may purchase are classed as bonds and stocks. A bond represents a debt, and the bondholders are creditors of the issuing party. There is no intention of the bondholders to share in the risks of the business. Their position is usually quite secure as they have a prior claim against the assets of the business pledged as security in case of default. Stocks, on the contrary, represent shares in the ownership of the business. In consequence, stocks usually represent business ventures, and should be purchased only by those able to assume some risk. There are, however, certain stocks which enjoy an investment rating. Certain stocks are better than certain bonds, but stocks are inherently weaker than bonds, and only under certain special conditions does a stock deserve an investment rating.

There are three classes of bonds, depending upon the security behind them. *Mortgage bonds* are those which are secured by a definite pledge of physical property. They comprise the great bulk of corporation bonds. The *debenture bond* is usually an unsecured promise to pay. Nearly all government bonds are debentures. Corporations of high credit standing are able to borrow on this basis. As a class they are a weak form of corporation bond, and should be purchased only with great caution. *Collateral bonds* are those secured by the deposit of other bonds and stocks. They are chiefly employed by financial corporations that do not have physical property to pledge. The title of a bond does not, of course, establish its quality. The

unsecured debentures of one company may be vastly superior to the mortgage bonds of other companies. Moreover, the titles of many bonds are ambiguous. Many so-called first-mortgage bonds do not deserve the title at all. The true investment status can be determined only by a careful investigation.

There are two principal classes of stocks, common and preferred. *Common stock* represents the unrestricted ownership of the company. It has usually the last claim to income distribution. It is apt to fluctuate more in selling price than other securities, and makes a good investment only in the case of certain old established companies. The Pennsylvania Railroad, General Electric, and American Telegraph and Telephone stocks are generally regarded as having a high investment rating. *Preferred stock* is a form of stock that has a preference over common stock in certain respects. It nearly always has a preference in regard to dividends and frequently in regard to assets as well. The United States Steel Preferred, for example, must receive a dividend of 7 per cent out of the earnings before the common stock receives any dividend. There are many preferred stocks that make desirable investments.

There are three principal methods of purchasing securities in this country; outright purchase, purchase on an instalment plan, and purchase on a margin. Outright purchase is the method in most common use. It consists in paying for the securities upon delivery. Houses catering to the small investor provide facilities for instalment buying. There are many different plans, but the one in general use is to pay 10 per cent down, and 10 per cent a month until the payments have been completed. Purchase on a margin is followed by those who wish to speculate. It usually involves a payment to the broker of about 20 per cent of the value of the security, and the remainder is advanced at interest by the brokerage house. It differs from the instalment buying in that there is no intention of completing the payments and ever securing complete ownership of the security.

Mortgages on both farm and city property may also often be used as investments advantageously. They have the advantage of calling for a definite amount to be paid both in interest and principal. They have the disadvantage that the appraisal of the property securing them may be incorrectly made, and that they can usually be sold at a forced sale only at a large discount, and that, in case of default of payments, foreclosure is costly and may result in a loss. They generally yield a higher return, however, than stocks and bonds. While mortgages are used extensively by insurance companies as an investment, this does not mean that they prove good investments for the small investor. They require too technical a knowledge of property values to be purchased without the advice of competent disinterested parties.

Bonds are usually issued in denominations of \$1,000, although there are a great many at \$500, and some at \$100. The latter are commonly designated as "baby bonds." They do not differ materially from the \$1,000 bonds since these are usually issued at the same time with the same security, with identical maturities, interest, and other features. There is a difference in their marketability, however, the smaller bonds selling on the market at a slightly lower price, and purchasable only at a slightly higher price than the larger bonds. This difference has, however, become quite large in certain special cases. The unit of trading for stocks on the New York Stock Exchange is 100 shares. Lots smaller than this are known as "odd lots," and comprise from 30 to 40 per cent of all the trading. Certain traders on the exchange specialize in handling these odd lots and handle the shares at a differential of from one-eighth to one-fourth of a point, depending upon the marketability of the stock, charging a higher price if buying, and remitting a lower price if selling. The investor may thus purchase as little as a single share in the largest corporation.

Problem

A widow with one child has the following investments:

Cash in bank (savings), \$500
10 shares Southern Pacific Common Stock
10 shares U. S. Rubber common stock
\$1,000 Liberty Bond, third, $4\frac{1}{4}$'s, 1928
\$4,000 Liberty Bond, $3\frac{1}{2}$'s, registered
\$5,000 Chile Government Bonds, 1941, 8's
\$3,500 Southern Pacific Bonds, Collateral 4's, 1949

Compute the present market value of the widow's property.
What changes, if any, would you suggest in these holdings?

CHAPTER XVI

THE PROBLEM OF PURCHASING

The division of the income among the budget groups, and the decision as to the direction and kinds of expenditures, does not complete the problem of the administration of that income. In the case of purchases there still remain the problems of where to buy, when, in what quantities, and in what manner to pay for the goods.

1. The Amount of Purchasing by Women.—The problem of buying falls principally upon the housewife. In the majority of homes fully two-thirds of the purchases made will be at her direction or with her advice. Articles entering directly into the consumption of other members of the family are often purchased by the housewife, for example, the shirts and ties of many husbands. We may gain some idea of her importance from the following table which shows the percentage of different articles purchased by various members of a group of New York families:

TABLE XLVII.—A COMPARISON OF THE PROPORTION OF THE PURCHASES OF CERTAIN ARTICLES MADE BY MEN AND BY WOMEN¹

Class of article	Percentage by men all alone	Percentage by women all alone	Percentage by both	Percentage by neither
Men's clothing	65	11	23	1
Women's clothing	1	87	12	0
Druggist's articles	10	48	41	1
Kitchenware . . .	2	89	8	1
Pets	19	5	15	61
Dry goods .	0	96	4	0
Vehicles . . .	23	1	15	61
House furnishings. . . .	4	48	46	2
Musical instruments.	13	7	20	60
Raw and market foods. . .	0	87	13	0
Package foods.	3	79	14	4
Miscellaneous. .	6	22	68	4
Averages	12 2	48 3	23 2	16 2

¹ HOLLINGWORTH, "Advertising and Selling," p 296

2. The Problem of Where to Buy.—Identical goods are often sold at different prices in the stores of the same community. These differences are quite material in many cases. They are likely to be more pronounced in convenience than in shopping goods, and, in consequence, while the difference on a particular purchase may be small, the total saving, if all were purchased at the lowest possible prices, would be quite material. An example is given in the following table which shows the difference in the prices of standard grocery articles sold in different classes of stores in Minneapolis and St. Paul in November, 1923. The stores are grouped in four classes for purposes of comparison. There were 7 department stores, 12 chain stores, 8 large unit stores, large groceries serving the whole city or a considerable proportion of it, and 38 small unit or neighborhood stores included in the study. The prices are the modal or most usual prices in the group of stores. Thus 52 cents was the most usual price of Mazola oil in the 12 chain stores. Some chain stores sold at higher prices, and other chain stores at lower prices. In the small unit stores there were some products for which there were two prices, at both of which there were a number of grocers selling the product. Both of these prices are given. The articles are nationally advertised and packaged goods, so that the qualities are the same in all stores.

TABLE XLVIII.—PRICES OF CERTAIN ADVERTISED ARTICLES IN DIFFERENT TYPES OF STORES

Article	Department stores	Chain stores	Large unit stores	Small unit stores
Mazola (quart).	\$0 75	\$0 52	\$0.58	\$0 65
Grape Nuts . . .	0 20	0 16	0 19	0 20 and 0.18
Dromedary Dates	0 25	0 21	0.25	0 25
Sun Maid Raisins	0 22	0 15	0 15	0 15 and 0 18
Ivory Soap (medium)	0 09	0 07	0 08	0.10 and 0 08
Ivory Soap (large)	0 12	0 12½	0 12½	0 15
Campbell's Soup .	0 12	0 10	0 10	0 12 and 0 10

These differences in prices between the types of stores are due largely to differences in the services which are furnished with the goods. The thing which the consumer purchases in a retail store is not simply a package of raisins, but a package of raisins at a particular place and with certain services. The chain store, for example, is usually a cash-and-carry store. It has no credit expense, or loss of bad debts, or delivery expense, and can, in consequence, afford to sell goods on a narrower margin to those who do not demand these services. An idea of the effect of these services can be gained from the difference in prices charged by grocers in New York City for seven standard fruits and vegetables. Unit stores furnishing credit and delivery services charged an average price of 27 cents for these products; the cash and delivery unit stores, 24.9 cents; and the cash-and-carry unit stores, 23.3 cents.¹ Department stores do not often push their grocery departments. Together with some of the other strictly convenience-goods departments, they are customarily operated at a loss as individual departments. They are maintained because they add completeness to the stock of the store, and a reputation for completeness is an important department-store asset; in this way, the grocery department contributes to the sales of other departments.

Between particular stores of the same class, price comparisons on the basis of single items may be unfair. A store sells a wide variety of articles, and is likely to be higher on some and lower on others than its competitors. Thus one store may be low on staple groceries and high on canned goods, or low on fruit and vegetables, and high on flour and sugar.

Consumers do not generally shop around for each of these classes of goods, but choose a store for the general level of its prices, if even this enters into their calculations. In a total of 2,860 housewives included in the Department of Agriculture's study of consumers' preferences in the case of

¹ "Expense Factors in City Distribution of Perishables," U. S. Department of Agriculture, *Bull.* 1411, p. 24.

meat, 56.9 per cent stated that they never shopped among stores in purchasing meat, 31.2 per cent that they shopped among stores sometimes, and 11.9 per cent stated that they shopped among stores a great deal.¹ A study of about 3,100 Columbus housewives by the Ohio University Bureau of Business Research showed comparative shopping to be the greatest in the case of vegetables, next in meats, and least in the case of general groceries.² The retailers of strictly shopping lines make greater efforts to keep their prices in line with competitors than do the retailers of convenience lines. This is very important in shopping lines, since customers are passing constantly from store to store and sales and reputation will be lost if prices get appreciably higher than in other stores. Department stores in large cities maintain an elaborate system of "shoppers" who visit the stores of competitors, comparing prices and qualities of goods with those of the home store. When prices are unreasonably low, considerable quantities of goods may be purchased from the competitor without his knowledge as to their final destination, and transferred to the shoppers' store to be sold at prices to meet the competitor. Shoppers also keep watch for new goods, and rapidly moving lines. The prices of specialty goods show a wide range for the different lines. Thus there will be a wide range in the prices of different radios and washing machines. Many of these will be selling at prices out of proportion to their cost. Any particular make of specialty good, however, is likely to be sold at the same price in the stores selling it. This is because price frequently enters into the advertising, and also because of the close control over the distribution which is exercised by the manufacturer in the case of specialty goods through the exclusive agency or his own retail outlets.

The consumer will do well to look for these differences in price, if not constantly, at least at regular intervals, and

¹ "Consumers Habits and Preferences in the Purchase and Consumption of Meat," U. S. Department of Agriculture, *Bull.* 1443, p. 32.

² "A Study of Housewives' Buying Habits," Ohio State University Studies, Vol. 2, No. 16. Bureau of Business Research Monographs No. 3.

he may be able to save a significant amount by purchasing at the proper place. For example, by comparing the chain stores and small unit stores, we find that the consumer would have saved about 25 cents on his purchases if he had bought one of each of the articles listed at the typical chain-store prices rather than purchasing them at the usual small unit-store prices. This would have been about 15 cents on each dollar's purchase. The individual consumer must reach his own decision as to whether this saving is worth the inconvenience of paying cash and carrying the goods.

3. The Problem of When to Buy.—Another possibility of saving lies in purchasing articles at the proper time. The prices of many products vary during the year, and purchases of these products need to be considered carefully.

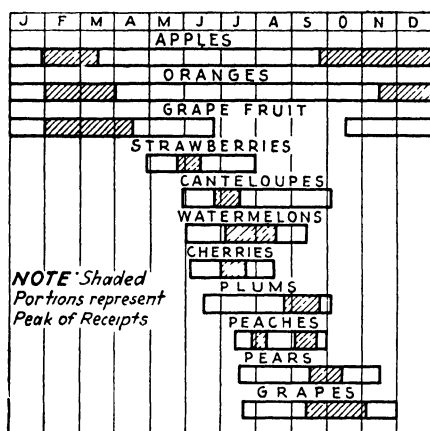


FIG. 13.—Period of earlot receipts of certain fruits in Minneapolis.

Food is an important group in this class. Fresh fruits and vegetables, for example, are highly seasonal in nature, and there are limited periods in which each constitutes a proper purchase in the lower income groups. There is, likewise, a limited period in which they are sufficiently high in quality and low in price to be particularly suited for canning and preserving. These periods show some variation between years, but, in general, come at approximately the same time.

A valuable aid in proper seasonal purchasing may be obtained through the construction of a seasonal calendar which gives the time when foodstuffs are in season in the local market. Such a calendar would give a list of the products arranged in order, with the length of the season indicated, and the period when it is at its height. Figure 13 will furnish an idea of the nature of such a chart for fruits. Articles which show considerable variation in price, but not principally seasonal, may be compared with competing products by calculating the ratio of the prices at which a dollar would purchase the same number of calories in each. These may quite profitably be calculated for the major food items. An illustration is given in Table XLIX.

TABLE XLIX.—RELATIVE PRICES OF MEATS AT WHICH EACH DOLLAR PURCHASES THE SAME CALORIES

Meat considered	Meat considered as a substitute Ratio which the price of the substitute must be to the price of the meat under consideration in order to purchase equal calories				
	Beef, flank	Beef, round	Ham, fresh	Pork, chops	Lamb, leg
Beef, flank	100	80	134	113	77
Beef, round	125	100	168	141	97
Ham, fresh	74	59	100	84	58
Pork, chops	88	70	118	100	68
Lamb, leg	128	103	172	146	100

When the price of the substitute meat is greater in proportion to the meat considered than the figures in the table then the purchase of the substitute is undesirable, and when less it is desirable. Thus if beef flank were 20 cents per pound and ham were 30 cents per pound, the price of ham would be 150 per cent of the price of beef flank and beef flank would furnish more calories per dollar of expenditure.

A somewhat similar situation occurs in the case of shopping goods. Style goods are priced higher in the early part of the season than they are in the latter part of the season, and slow-moving lines are frequently sold below actual cost near the end of the season. Those who can afford to sacrifice on priority of style can make important savings by

purchasing at these later sales. Sales of particular lines of goods are conducted at regular seasons of the year by nearly all department stores, for example, sales of furniture, linens, and men's clothing. The times of these sales should be learned by the housewife and she should adjust her plans to provide for the year's requirements as far as possible at that time. Also, there are often sales in many specialty lines. The contract providing for an exclusive agency commonly permits a single, or possibly two sales during the year, below the manufacturer's established prices.

4. The Problem of How Much to Buy.—There is also the problem of the proper quantity in which to purchase. Many of the costs of retail services are related to the single sale, and do not vary a great deal with the size of the sale. For example, the cost to the merchant of selling a peck of potatoes to one customer, and that of selling a bushel to another are approximately the same. These differences are roughly adjusted by differences in the proportions of the prices of large and small quantities of the same articles. Thus a 100-pound sack of sugar will ordinarily be sold by a retailer at a price somewhat less than four times that of a 25-pound sack.

It would often be advantageous, in consequence, for the consumer to purchase in larger quantities than he customarily does. There are, however, a number of factors which must not be overlooked in reaching a decision as to whether to buy in the larger quantity. For example, one must consider the amount of discount to be gained from the larger purchase, the probable waste and deterioration that will arise from domestic storage, the care required to prevent spoilage, the storage facilities, the probable effect of the larger quantity on hand on the waste in cooking and at the table, and the investment involved in the purchase. Some goods, such as canned goods, can often be advantageously purchased for a year at a time when funds and storage facilities are available. It may be appropriate to purchase supplies of other things for shorter periods. Proper planning will enable quantity purchasing to save

not only the household money but the housewife's time as well.

There is some possibility of gaining the advantages of the lower prices on larger purchases through the combination of the purchases of a number of households. There are a number of cases of employees in particular plants making regular group purchases of special commodities, such as butter. These sometimes take the form of informal buying clubs, covering a wide range of purchases. Such organizations depend for their success principally on the activity and vigor of their leaders. They are not generally successful, except for short periods.

5. Resale Price Maintenance and the Consumer.—The manufacturers of certain branded articles endeavor to eliminate the differences between stores in prices of their product by setting a price at which the retailer is to sell the article. When manufacturers sell through their own organizations to consumers, the maintenance of uniform prices is a simple matter, but where they sell to others, who in turn sell again, price maintenance is difficult. Manufacturers of goods which are not labeled have no concern with price maintenance, but those manufacturers who maintain the identity of their product through the entire marketing process usually have. The difficulties of price maintenance are considerably greater with convenience than with specialty goods. The manufacturer of specialty goods frequently markets through his own retail outlets, or through exclusive agencies granted certain retailers. He can maintain prices quite easily. Convenience goods usually pass the hands of several intermediaries before reaching the consumer, and control, in consequence, is difficult.

Convenience goods, moreover, require a wide distribution, and will be in the hands of a large number of retailers. It is this need of a wide distribution of the product, if any considerable volume of sales is to be secured, that makes the problem of price maintenance important to the manufacturer. An excellent method for a retailer to adopt in

attracting trade is to select some widely known article and sell it below the generally established price in other stores. This establishes a reputation for low prices, and even if losses are sustained on this article, they are usually made up by increased sales and profits of other articles in the store to the consumers who have been attracted by the low price on the single item. Other merchants may retaliate by cutting the price on this article, or they may discontinue the line. The latter alternative is usually chosen since there are likely to be similar articles on which wider margins can be taken, and these lines can be quite readily substituted for the other good. It is one of the characteristics of convenience goods that even where consumers ask for a particular product that they will quite readily accept the substitution of a different brand if the one asked for is out of stock. The dropping of this article by a large number of retailers seriously lessens the manufacturer's distribution of his product, and, in consequence, his sales. Moreover, when the product ceases to be handled in other stores, it ceases to be attractive from a price-cutting standpoint, and even the price cutter may stop selling it. It is, in consequence, highly desirable, from the manufacturer's standpoint, to maintain the price on his product in a great many cases.

From the standpoint of the consumer, the maintenance of retail prices is an undesirable practice. It probably results in a higher general level of price than would exist without it. If the manufacturer allows each to set his selling price to suit his own conditions, those in high-cost situations will sell for more than those in low, but if all sell for the same price, then the manufacturer must have the price high enough to persuade those with high costs to handle his product. Retailers with lower costs and more efficient methods would then be unable to pass these gains on to the consumer in the form of lower prices. If prices were maintained on all products, competition between stores would cease to be on a price basis, and become entirely a competition of service. This would not be desirable.

Consumers who desire to perform a portion of the marketing process themselves, such as buying for cash, and carrying their goods home, should have the opportunity of benefiting from lower prices. The wide growth of cash-and-carry stores in recent years indicates the economy which many consumers find in this method of purchasing.

The legality of resale price maintenance is not clear. Manufacturers are prohibited from making agreements with retailers that they will sell only at a certain price. They can refuse to sell to the price cutter on various grounds, but to set up an organization to determine who the price cutters are is in restraint of trade and illegal. If the information comes to them in the ordinary course of business, however, they may act upon it.

6. Instalment Purchasing.—There are two methods of purchase available for consumers in nearly all products which involve the investment of any considerable amount of money. These are outright purchase and instalment purchase. The method of instalment buying has increased very rapidly in the United States since about 1912. It has been a somewhat common practice among the poorer people of the country in the case of clothing, pianos, and furniture, for about 50 years. The extent of instalment purchasing can only be roughly estimated. It is associated particularly with the sale of automobiles, household appliances, furniture, and jewelry. It has been estimated that the total annual sales of merchandise in the United States are between thirty-five and forty billion dollars, and that sales on the instalment plan are around five billion dollars annually. Estimates are made for certain principal lines of merchandise in Table XL.

The system of instalment buying serves a useful purpose in enabling the purchase of many articles for which the initial cost is too high for the immediate cash resources of the consumer. These purchases may be justified either because they will add to the productive power of the family sufficiently to counterbalance the payments, or because the present needs satisfied by the object are much

greater than the needs which can be satisfied at the later period, if the payments were deducted from the current income and accumulated to the amount necessary for a cash purchase. It has previously been shown that the loss of satisfaction involved in the payment of a given sum is much less if this sum can be paid in a series of amounts over a period of time than if the sum is paid as a lump

TABLE L.—ESTIMATED INSTALMENT SALES OF CERTAIN ARTICLES¹

	Retail value	Per cent	Credit extended, dollars
1. Automobiles	\$2,910,022,505	75	\$2,182,561,878
2. Washing machines	88,000,000	75	66,000,000
3. Vacuum cleaners	69,000,000	65	44,850,000
4. Phonographs	70,000,000	80	56,000,000
5. Furniture	Approximately	85	756,000,000
6. Pianos...	100,000,000	40	40,000,000
7. Jewelry.	400,000,000	25	100,000,000
8. Radio ..	300,000,000	13	39,000,000
			<hr/> \$3,293,411,878

¹ "Instalment Selling," a mimeo release, Chamber of Commerce of the United States, Washington, D C, 1926

from the income of a single period. This does not mean, of course, that all instalment purchases are justified. Whether these purchases are wise depends upon the consumer, and instalment buying may be a means of extravagant and foolish expenditure as well as wise. Moreover, the probabilities of foolish expenditure are even greater than in the case of cash purchases, because the apparent ease of payment may lead to purchases beyond the means of the consumer, and sometimes loss of the goods, even after a considerable payment has been made upon them. This is likely to be the case among the lower-income groups particularly.

Cash and instalment sales are made at the same price in many cases. The latter involve the greater expense, and where made at the same price as cash purchases, place an unfair burden upon the cash customers. In such cases, once the particular purchase has been decided upon,

the individual purchaser will gain by purchasing on the instalment plan. It is usual, however, to make a charge for instalment credit. This makes it necessary for the consumer to perform some sort of a calculation as to whether the increased cost of instalment purchasing offsets the advantages of purchasing in that manner. These costs are often very high, as evidenced by the following statement of an investigator.

The price of instalment credit to the consumer, as evidenced by the difference between the cash and credit prices of goods, varies greatly, ranging from nothing to as much as 80 per cent, depending upon the individual transaction. Extensive inquiry as a prospective buyer from retailers of all kinds into the cash and credit prices of various commodities and also examination of the rate schedules of a number of finance companies, indicate to us that the usual price of instalment credit ranges from 11 to 40 per cent. Another way of saying the same thing is that, as a rule, it costs the buyer as much more to buy on the instalment plan, as it would if he borrowed the money at an interest rate of from 11 to 40 per cent and paid cash.¹

When the costs run as high as the amounts indicated by this investigation, purchasers should ordinarily adopt other methods of payment.

7. Buying Superstitions.—Many commodities, particularly food products, exist in a variety of qualities, and it is difficult to determine the proper quality of the particular article suitable for the individual family, even after the general purchase has been decided upon. The solution of this problem, as has been indicated, lies in the proper education of the consumer, and in the working out and enforcement of proper standards by which the consumer may judge the true worth of the products which he buys. At present there are many curious buying superstitions among consumers in different places. In food, for example, there are a great many. In New York, consumers have paid higher prices for white eggs than for brown eggs, while the reverse is true in Boston. Chemically, there is

¹ PLUMMER, W. C., "Social and Economic Consequences of Buying on the Instalment Plan," Supplement to Vol. CXXIX of the *Ann. American Academy of Political and Social Science*, 1927.

no significant difference between the two kinds of eggs. White bread is less nutritious than whole-wheat bread, yet there is a feeling that white bread is superior to whole-wheat bread. Rye bread is considered even less respectable than whole-wheat bread. We find that the North demands yellow cornmeal, and the South desires white. Apples are customarily bought because they are red, while some of the other varieties are equally good, and much less expensive. The South wants yellow onions while the North will take red ones too. Certain cuts of meat are thought to be much better than others. The cheaper cuts, however, generally yield much more in calories per dollar than the higher-priced cuts.

Many consumers are unable to judge the grades of meat they are purchasing, and, in consequence, often receive poorer grades than those for which they paid. The following extract from the U. S. Department of Agriculture study of 3,500 meat stores shows how typical such practices are.

The policy of lowering the grades of meats sold at a time of rising wholesale market and of restoring the former grade on a declining wholesale market, thereby furnishing meats to customers at prices more nearly uniform than would be possible if the same grade were maintained constantly, is followed by many dealers and is regarded with approval by persons of high business standards in the trade. The shifting of grades is somewhat easier to those dealers who usually carry more than one grade. Carrying more than one grade also enables an unscrupulous dealer to sell meat of a lower grade to a customer who is unskilled in judging, at the same price as meat of a higher grade to a discriminating customer.¹

Similar conditions prevail in other lines of expenditure. The sale of rayon, for example, was much retarded during the early years of its introduction because it was labeled "artificial silk," and consumers attached an idea of inferiority to it. Consumers can, in consequence, secure relative bargains if they properly understand the qualities of goods, by purchasing commodities which sell relatively

¹ "Retail Marketing of Meat," U. S. Department of Agriculture, *Bull.* 1317, p. 31.

low in price because of these superstitions, and avoiding those made relatively high in price by these superstitions.

Problem

It has been suggested that purchasers of goods on the instalment plan should have certain rights in the goods which they are purchasing after some payments have been made on those goods. Draw up a plan which you think would be feasible, guaranteeing purchasers rights in those goods similar to those which the purchaser of insurance has in his contract with the insurance company. Make your plan one which you believe fair both to the customer and the dealer.

PART IV
SOCIAL PROBLEMS OF CONSUMPTION

CHAPTER XVII

THE POPULATION PROBLEM

The relation of the number of people to the product of society is an important social problem. It is, in many aspects, largely a consumption problem, since the population which a given area supports depends in a large measure upon the consumption habits of the people. Among plants and animals, the numbers are determined principally by the needs of subsistence. There is a strong tendency for a rapid increase in numbers until the population becomes so large that nature thins out the young before they reach maturity, and the population becomes stationary. With mankind, these forces are complicated by considerations of the future which lead many to restrain their impulses, and by influences which society throws about the individual. These act sometimes to increase, and sometimes to decrease, the growth of population.¹

1. The Factors of the Problem.—The population problem, at least among civilized peoples, is a dynamic problem. The number of people is increasing, the product of society is increasing, and the consumption of the people is changing. There are, in consequence, three important aspects of the problem: (1) the rate of increase of the people, (2) the rate of increase of production, and (3) the changes in the consumption of the people. These are mutually dependent factors, a change in one necessarily affecting the others. Thus, in a settled community, an increase in the numbers of the people at a more rapid rate than the rate of increase in production can be accomplished only with a downward revision of the level of consumption of the people. Similarly, an increase in the level of consumption means that the rate of increase of the people will necessarily become

¹ Cf. MARSHALL, A., "Principles of Economics," 8th Ed., p. 173.

relatively slower than the rate of increase of production. A uniform level of consumption means that the rate of increase of production is just equalling the rate of increase of the people. These situations may be temporarily obscured by the accumulation or depletion of wealth produced but unconsumed by the people. This, however, will be temporary, and in the long run the relations which we have indicated will hold true.

2. The Rate of Increase of the People.—The rate of increase of the people of a particular country depends upon the natural increase, that is, the excess of births over deaths, and the immigration to and migration from that country. The probable maximum rate of increase of a population is around 3 per cent per annum, or doubling every 23 years. The maximum birth rate for a normally constituted population is usually placed at about 45 per 1,000, that is, for every 1,000 persons in this population there may be as many as 45 births per year. If the population is not normal, that is, does not contain its due proportion of young and old, then the rate would be quite different. For example, birth rates among newly migrated groups are frequently much higher, since such groups are usually composed of unduly high percentages of women of child-bearing ages. It is probable that the physically possible maximum is even higher than 45, possible 50 or even 60, but 45 is a reasonably expectant maximum.

The minimum death rate depends upon the rate of growth of the population, and the length of life which we assume the ordinary person to attain. If we assume that the life period is 80 years, that the population is stationary, and that death comes from old age alone, then the death rate would be 12.5. The death rate decreases as the ordinary age attained by the individuals in society increases. A reasonably expectant minimum death rate is usually set around 15. If the maximum birth rate of 45 and the minimum death rate of 15 were realized, we would have an annual excess of births over deaths of 30 per 1,000 persons, which would mean an increase of 3 per cent a year.

The actual rates of increase of all civilized countries are much less than this maximum figure. The actual rates vary from about $1\frac{1}{4}$ per cent downward to nearly zero. This means either that the population is maintaining a nearly constant level of consumption, and that the rate of increase of production has been approximately that of the rate of increase of population, or that there has been a restriction of the increase of numbers below the rate of increase of production with a consequent increase of the level of consumption. We are able to gain some idea of the relative situation in different countries by an examination of the estimates of the birth and death rates in these countries. Table II gives this information for several countries.

TABLE II.—BIRTH AND DEATH RATES FOR CERTAIN EUROPEAN COUNTRIES¹

Country	Year	Birth rate	Death rate
Rumania	1919	35 2	22 0
Italy..... ..	1924	28 3	16 6
Hungary	1924	26 8	20 2
France	1921	19 4	17 6

¹ Calculated from the data of the "Statesman's Yearbook "

The countries with high birth rates have generally accompanying them high death rates which keep the rate of increase of population down to about the rate of increase of the countries with lower birth rates. In these countries, the general level of consumption is very low, so low, in fact, that for many families and for inefficient individuals it is below the minimum of subsistence. Here the rate of increase of population and of production are the same, and the level of consumption remains very low. The population is generally ill-fed, poorly clad, and poorly cared for. China would be an outstanding example if we had the data. In these countries, the death rate is highest among the very young. It simply means that many more children are brought into the world than can possibly survive. Even those who grow to maturity face a life of

struggle and low wages. Yet they marry early, and have large families.

In other countries, the rate of increase of the population is held back by lower birth rates. This indicates a level of consumption above the minimum, and, since these are the more progressive countries, probably a rising level of consumption. The rate of production must be at least the rate of increase of population in these backward countries, and probably more in the progressive countries, and these latter have approximately the same or lower rates of increase than the backward countries. These lower birth rates are an indication of psychological checks, chiefly the social and economic ambitions of families. Families are smaller because each family desires to increase its material well being. When the possibility of better conditions is visible, and when it becomes clear that the larger family will lessen the possibility of realizing on these opportunities, powerful forces are set in motion for a restriction in the size of the family. The checks are not all conscious, for society builds up powerful unconscious checks as well. As our variety of other interests increase, the importance of any one, such as a desire for a family, becomes less powerful.

There is evidence in the historical declining birth rate found nearly everywhere in the world that the psychological check is operating to decrease the rate of growth of population. The birth rates of civilized nations have shown a decline since the middle of the last century. There is ample evidence that the rate of increase of production has not declined. For example, the birth rate of Hungary decreased from 44.6 per 1,000 in 1881-1886 to 37 per 1,000 in 1909; that of Russia from 37.4 to 31.8; Italy from 38.0 to 32.4; England from 33.5 to 25.8; Scotland from 33.3 to 26.4; and France from 24.7 to 19.6. Population growth has not declined at a rate comparable with these decreases in the birth rates, since they have been offset, in a major part, by similar decreases in the death rates. The rate of natural increase actually rose in these years in Hungary,

Russia, and Italy, while in Scotland, England, and France the rate of increase of the population declined very slightly, although there was a material decrease in the birth rate.

The total population of the United States has increased at a steadily declining rate since our first census in 1790. The following table shows the percentage increase of our actual population, and the estimated natural rate of increase after allowance has been made for immigration and emigration:

TABLE LII.—TOTAL POPULATION AND ESTIMATED NATURAL INCREASE OF THE POPULATION OF THE UNITED STATES BY DECADES SINCE 1790

Census decade ending	Actual population	Total increase, per cent ¹	Estimated natural increase ¹
1790	3,929,214		
1800	5,308,483	35 1	
1810	7,239,881	36 4	
1820	9,638,453	33 1	
1830	12,866,020	33 5	31 8
1840	17,069,453	32 7	27 7
1850	23,191,876	35 9	25 3
1860	31,443,321	35 6	22 8
1870	38,558,371	26 6	18 5
1880	50,155,783	26 0	19 0
1890	62,947,714	25 5	16 3
1900	75,994,575	20 7	15 2
1910	91,972,266	21 0	13 2
1920	105,708,771	14 9	10 9

¹ RENTER, E. B., "Population Growth in the United States," in "Population Problems," L. J. Dublin, editor, p. 23.

The probable population of the United States at certain dates in the future has been forecast from these data. The forecast which has probably been most carefully made places our population at 120,000,000 in 1930, 135,000,000 in 1940, 148,000,000 in 1950, and 183,000,000 in about 2000.¹

The increase in population does not come equally from all classes of society. A great difference exists between

¹ PEARL, RAYMOND, and F. C. KELLY, "Forecasting the Growth of Nations," *Harpers Magazine*, Vol. 142, No. 852, p. 705.

the birth rates of the various social and economic classes. The higher birth rates are to some extent offset by higher death rates, but not sufficiently to overcome the difference in birth rates. It is a well-recognized phenomenon that, as we descend the social and economic scale, both the birth rate and the mortality rate increase. Moreover, there is nearly as great a variation between groups which must be classified as essentially social and economic equals. Probably the most extensive study of this phase of the problem is the British "Report on the Fertility of Marriage." The results of the study are shown in the table below.

TABLE LIII.—EFFECTIVE FERTILITY RATIOS FOR VARIOUS CLASSES IN ENGLAND AND WALES; THE AVERAGE NUMBER OF CHILDREN PER ADULT MALE IN THE CLASS (Whether Married or Not)¹

Class One	Entrepreneurs and professional	0 96
Class Two	Shopkeepers and artisans	0 96
Class Three	Skilled labor and domestic servants	1 49
Class Four	Semiskilled labor	1 41
Class Five	Unskilled labor	1 51
Class Six	Textile workers	1 13
Class Seven	Miners	1 63
Class Eight	Agricultural laborers	1 47

¹ Vol 13 of the 1911 Census of England and Wales, 1923

There were also found wide variations within these classes in fertility. In the professional classes, lawyers had a low fertility while clergymen were high. Officers of the army and navy were distinctly lower than authors and school-masters. Domestic indoor workers have extremely low fertility. There is clearly a tendency for the fertility of a group to be adjusted to the conditions of employment as well as the social and economic position of the group. Textile workers show a much lower rate than miners, probably because of the greater number of women workers, and because miners are out of touch with and do not associate freely with the other industrial groups.

Evidence for the United States shows the same situation. The 1920 report on birth statistics shows the average

number of children born to women classified according to the husband's occupation. Miners have the largest number—3.8. Among the larger industrial groups we find farmer's wives with 3.8, and wives of laborers in the manufacturing industries, 3.7. At the other extreme are such groups as bankers and brokers with 2.3, teachers, 2.3, and the professional class as a whole averaging 2.3.

The differential rate of growth between classes raises the important problem of whether the general inborn qualities of the people are not decreasing. Certain groups in the middle and upper classes are not maintaining themselves, and the great increase is coming from the lower social and economic groups. On the assumption that there is a considerable correlation between the possession of a low income and "poor" qualities, and a high income and "good" qualities, and that these qualities are hereditary, then the general quality of the population must progressively be lowered. Certain things, however, must not be overlooked in reaching a conclusion on these points. The first is that the test of economic position may not be an entirely valid one. It is within the power of each society to reward liberally those members whom it judges to contribute most to that society. It is possible that the system of rewards in our present organization does not reward sufficiently those who are making or possess the possibilities of making the most lasting contributions to our civilization. In the second place, these differences are undoubtedly due in a large measure to environmental and educational advantages. While the precise part played by environment and heredity is incapable of differentiation, the environmental factor is undoubtedly large. The effects of these environments are inherited in a measure similar to the inheritance of hereditary characters.¹ Moreover, they are cumulative in their effects. If the environment of this generation can be improved, then the individuals are better than they would have been had they lived in a poorer environment. They,

¹ Cf. Pigou, A. C., "Economics of Welfare," 1st Ed., p. 98-101.

in turn, will be able to provide their children with a superior environment, and these, in turn, their children, and so on. We may conclude, therefore, that, even though the innate quality of the people may have declined slightly, and this is indeed open to serious question, that this decline has certainly been much more than offset through improved environment. We also find a clear tendency for the rate of increase of a class to decrease as its material well-being increases. If the rate of decrease itself decreases as material well-being increases, then, as society increases its per capita income, its distribution remaining the same, the relative increase of numbers coming from the lower-income groups would decrease. We may also definitely conclude that any less unequal distribution of income because of a relative increase in the income of the lower-income groups must lower the proportion of the population coming from the lower-income groups.

3. The Rate of Increase of Production.—The principal difficulty which arises in the case of production as population becomes larger is the general tendency toward diminishing returns. The broadest statement of this tendency is the so-called "Classical Law of Diminishing Returns," namely, that an increase in the capital and labor applied to land causes, *in general*, a less than proportionate increase in the amount of produce raised, unless it happens to coincide with an improvement in the arts of agriculture.¹ The reasons for this general tendency are that, as more product is obtained from the land cultivated already, the increased product can be obtained only at a greater cost of labor and capital per unit of product, and that the cultivation of new land necessitates the utilization of poorer land. If it were not for improvements, then, we would find shortly that an increase of population could be obtained only at the expense of a lower level of consumption.

There are a number of factors which tend to offset this tendency toward a diminishing return. The development of productive technique, and the discovery of new natural

¹ MARSHALL, A., "Principles of Economics," 8th Ed., p. 407-409.

resources are important ones. They have been principally responsible for our great increase in productiveness during the last century and a half. It is a problem of how long this march of progress can continue. No one can predict. There are, however, two good reasons for supposing that it cannot be indefinite. The inventions and discoveries which have been effective in increasing production are those which make available new natural resources hitherto unused, or which provide a better utilization of those already in use. Thus the steam engine substituted the energy in coal for the muscular energy of man and horse, while the hydroelectric turbine more effectively utilized the energy in the streams and rivers than the old waterwheel. If there is a definite quantity of these resources, the discovery and utilization of each lessens the probability of future discoveries. Furthermore, improvements become increasingly difficult as the machine in use becomes more effective. It is much easier, for example, to raise the efficiency of the utilization of coal from 5 to 15 per cent than to raise it from 15 to 25 per cent, each an addition of 10 per cent. This indicates increasing difficulties of expansion along these lines.

Another factor which lessens the sharpness of the action of diminishing returns is the advantage which a large population gains from large-scale production and specialization.¹ These advantages are quite considerable, and have offset the action of diminishing returns for a considerable time in many places. They operate most markedly, however, in the early stages of a community's development, and gradually lose their force as population becomes more dense. While they offset, in part, the action of diminishing returns, they cannot be expected to do so completely.

Finally, total production may be increased by increasing the amount of capital. If the rate of increase in capital is greater than the rate of increase in population, then each

¹ Henry George and Simon Patten have argued that this might completely overcome the tendency to a diminishing return. Cf. HENRY GEORGE, "Progress and Poverty," Book II, Chap. IV.

laborer will have more capital to work with than formerly, and the per capita product will be increased. There has been a great and increasing accumulation of capital in the world during the past century and a half. This is a factor which we may expect to become increasingly important, since incomes appear to be rising, and greater portions of large incomes are likely to be saved than of small incomes.

There is, in addition, the possibility of increased efficiency in our utilization of human resources. A large portion of our increasing production is due to the greater trustworthiness of modern workmen as compared with old. Moreover, any population contains a large number who contribute little to the productiveness of society. A reduction of this proportion would add to the per capita production. Similarly, there are indications of untold resources in the way of human energy in the great spurts of production following the introduction of piece rates in many industrial establishments, and the impetus to production that seems to have followed the war and prohibition. Methods which sustain the interest and enthusiasm of the workers would do much to increase production.

In the United States, we find, as yet, no clear evidence of the action of the general tendency toward diminishing returns. Our rate of increase of production has been greater than our rate of increase of population, and we have had, in consequence, a continual rise in the level of consumption. Data of our increase in total production are not very satisfactory, but indices prepared by several separate investigators, chiefly Day, Stewart, and Snyder, show nearly identical rates of increase over a considerable period of years.¹ This annual increase has been around $3\frac{1}{2}$ per cent. Snyder's index reduced to annual rates of increase of production for various periods, rates of increase

¹ Cf. DAY, E. E., "An Index of the Physical Volume of Production," *Review of Economic Statistics*, January, 1921, p. 19; STEWART, W. W., "An Index Number of Production," *American Economic Review*, March, 1921, p. 57; SNYDER, C. "Business Cycles and Measurement" p. 47.

of population, and rates of changes in real wages are given in the table below.

TABLE LIV.—COMPARATIVE RATES OF INCREASE OF PRODUCTION AND OF POPULATION AND CHANGES IN THE RATE OF REAL WAGES IN THE UNITED STATES

Year	Snyder's index of production (1910-1914 = 100) ¹	Annual rate of increase	Annual rate of increase of population (figures of Table LII ÷ 10)	Annual rates of changes in real wages ²
1870	33.75			
1880	47.42	4.05		
1890	54.91	1.7	2.6	
1900	65.89	1.9	2.55	-0.21
1910	96.45	4.6	2.07	+0.75
1920	125.46	3.0	2.10	+0.60
1925	143.27	2.8	1.49	+1.51

¹ SNYDER, "Business Cycles, and Business Measurements" p. 239

² DOUGLAS, P. H., "The Movement of Real Wages and Its Economic Significance," Supplement, *American Economic Review*, March, 1926, p. 52. Rates are calculated between the 10-year dates and divided by 10.

The principal increases in production have come from mining, and from manufacture. Agriculture has barely maintained pace with population growth, as, in fact, one would expect. Our food consumption is definitely limited by the number of our people, and at our present high level of consumption would probably lead only to exports if our production increased more rapidly than our population. An idea of these differences in growth may be obtained from the table below.

TABLE LV.—ANNUAL INDICES OF THE PHYSICAL VOLUME OF PRODUCTION IN THE UNITED STATES (Base 1899-100)¹

Year	Agriculture	Mining	Manufacture
1899	100	100	100
1909	119	154	126
1919	137	255	218
1923	138	336	277

¹ DAY, E. E., "The Physical Volume of Production in the United States for 1923," *Review of Economic Statistics*, Vol. VI, No. 3, p. 200

4. Changes in Consuming Habit.—It has been predicted that the population of the United States will reach 150,000,000 people by 1952. The chief pressure which a population of this size will exert will be upon our agricultural resources. These resources are not sufficient to enable us to support a population of this size without a very material increase in the per acre production of agricultural products, or a considerable revision of our food and timber consumption habits, or an increase in the importation of agricultural products. Probably all of these three things will take place. The situation as summarized by experts of the Department of Agriculture is given in Table LVI. Of the two methods of meeting this situation, that of increasing our yields comparable to those of Europe, and that of adjusting our food consumption to their level, the latter would involve much less sacrifice. It is clear that European yields can be attained

TABLE LVI.—LAND REQUIREMENTS FOR A POPULATION OF 150,000,000¹

	Present land uses	Assuming no change in per capita consumption or in the average yield per acre of crop land, carrying capacity per acre of pasture land and annual growth per acre of forest land	Assuming no change in per capita consumption but an increase to European standards in yield per acre of crop land, carry- ing capacity per acre of pasture land, and annual growth per acre of forest land	Assuming no change in yields per acre of crops, carry- ing capacity of pas- ture, and growth of forests per acre; but a reduction of per capita con- sumption of food and forest products to the standard pre- vailing in Germany prior to the World War
Crop land	365,000	431,000	270,000	394,000
Humid grassland pasture	231,000	336,000	121,000	215,000
Semiarid pasture (constant)	587,000	587,000	587,000	587,000
Woodland pasture (constant)	237,000	237,000	237,000	237,000
Forest . . .	483,000	1,465,000	636,000	169,000
Provisional total	1,693,000	3,056,000	1,851,000	1,602,000
Less land used for both forest and pasture	237,000	237,000	237,000	169,000
Net total . . .	1,456,000	2,819,000	1,614,000	1,433,000

¹ U S Department of Agriculture. Yearbook, 1923, p. 488

in this short period only at a great increase in cost of labor. As long, however, as the United States continues to expand as a manufacturing nation, with an increasing rate of productivity in these lines, it will probably be able to secure large amounts of agricultural products from less industrialized countries. This means that the United States is not dependent upon the rate of diminishing returns in this country alone, but in the countries with which it trades for agricultural products as well. As long as there is an abundance of agricultural land elsewhere, our scarcity in this country need not be alarming.

The more effective levels of food consumption likely to be demanded under increased population pressure may be secured in two ways; first, by consuming products advantageously produced in the particular region, and second, by consuming products produced advantageously from the standpoint of land requirements. The region whose people consume the products which it is best adapted to produce can support a larger population on the same general level of food consumption than a region whose people do not do this. The gain comes partly from a saving in transportation costs, and partly from a better utilization of local resources. This is equally true of minerals and manufactured articles. Nearly all peoples are influenced in their food consumption by the products adaptable to their region. The Germans are large consumers of potatoes, rye, and barley because their lands are particularly suited to the growing of these crops. The southern Chinese eat rice, the northern Chinese, wheat, and the western Chinese, millet, each crop being the food crop which grows best upon the land of that region. This general situation is a phase of what is sometimes called the law of least social cost, that is while securing a given return of pleasure from consumption, those goods should be selected which can be produced with the least expenditure of effort.

The operation of this force in the United States can be traced in the estimates of per capita consumption of certain

meat products in various portions of the country. These are shown in Table LVII.

TABLE LVII.—ESTIMATED PER CAPITA URBAN AND RURAL CONSUMPTION OF MEATS IN SECTIONS OF THE UNITED STATES ¹

	Total	Beef	Veal	Mutton	Pork	Poultry
Urban:						
North Atlantic . . .	166 8	64 0	13 5	10 9	61 5	16 9
North Central, east.	176 8	75 6	11 6	7 3	69 3	13 0
North Central, west	181 4	77 5	11 7	6 8	67 2	18 2
South Atlantic	158 4	55 1	5 7	5 4	76 3	16 0
South Central. . .	178 4	66 1	4 4	8 7	79 7	19 5
Western.	177.8	76 2	16 3	13.6	60 5	11 2
Total	171 6	68 3	11 8	9 3	66 3	15 8
Rural:						
North Atlantic	174.7	47.1	10 7	7 6	85.5	23.9
North Central, east.	196 2	48 3	7 2	5 8	109 9	25.1
North Central, west	212 7	57 4	6 3	3.8	113 1	32 0
South Atlantic.	172 4	28 5	3 2	4 4	117 6	18 7
South Central	182 4	28 6	1 7	6 9	121 3	23 9
Western.	188 2	64 7	9 3	15 8	81 5	16 9
Total	187 1	41 6	5 4	6 5	109 7	23 9

¹ U. S. Department of Agriculture, Yearbook, 1920, p. 824.

Foods are customarily classified as primary or secondary. Primary foodstuffs are those which are the direct product of the growth of green plants, and can be consumed by man directly. Secondary foods are those which result from the feeding of agricultural products to farm animals. These secondary foods may be produced from products which are not suitable for human consumption, from products capable of use for human consumption, or from products raised on land capable of use for raising human food. The utilization of secondary foodstuffs is not as efficient as that of primary foodstuffs from the standpoint of human beings, so that the most effective use of land would require that such land as is capable of raising primary foodstuffs be utilized in growing those products. Animals differ materially in their effectiveness in the conversion of

secondary into primary foodstuffs. The following table gives some indications of these differences.

TABLE LVIII.—THE UTILIZATION OF FEED BY VARIOUS ANIMALS IN THE PRODUCTION OF FOOD¹

Pounds starch equivalent in fodder required to produce 1,000 calories in the form of:

Milk from good cow ²	2.9
Pig meat ²	3.0
Chickens ³	3.3 ⁴
Veal ²	4.7
Milk from poor cow ²	4.7
Mutton ²	5.3
Eggs ²	7.0
"Baby" beef ²	7.0
"Steer" beef ²	9.0
Chickens ³	15.0 ⁵

¹ ALSBERG, CARL, "The Effect of Scientific Food Consumption in Increasing Wealth," p. 5.

² "The Food Supply of the United Kingdom" A report drawn up by a committee of the Royal Society at the request of the president of the Board of Trade, p. 27, London, 1917.

³ Based on unpublished data of the Food Research Laboratory of the Bureau of Chemistry, U. S. Department of Agriculture. The experiments were made upon birds weighing 17 pounds on an average. They were fed 2 weeks under the commercial conditions obtaining in the feeding stations of poultry-packing establishments. The high efficiency secured upon the distillers' grains-buttermilk diet is not typical of poultry production, in general, but the result of feeding for a brief period young birds upon a very nutritious diet.

⁴ Diet, corn, distillers' grains, and buttermilk.

⁵ Diet, corn and water.

The primary foodstuffs likewise differ in their effectiveness in the utilization of land and man labor. The table below indicates in a rough way the relative production of calories per acre and per 10-hour day of man labor for several crops.

TABLE LIX—ANNUAL PRODUCTION OF ENERGY OF VARIOUS CROPS PER ACRE AND PER MAN¹

Crop	Calories per acre	Calories per day of labor
Corn . .	3,124,240	781,060
Wheat	1,788,000	1,185,333
Rye	1,807,200	1,204,800
Oats	1,254,400	836,266
Irish potatoes	1,908,000	212,000
Sweet potatoes	2,851,000	219,400

¹ Adapted from ALSBERG, CARL, "Scientific Food Consumption," *Ann. of American Academy of Political and Social Science*, Vol. CXV, September, 1924.

It is apparent from these data that a much larger population could be supported with changes in consumption habits. Moreover, the modification which must take place in our consumption habits as population increases is clear. There must be an increased consumption of primary foodstuffs, accompanied by a considerable restriction in animal products which are the result of relatively low efficiency in the conversion of secondary foodstuffs, and a possible expansion in the consumption of animal products produced relatively efficiently. In this connec-

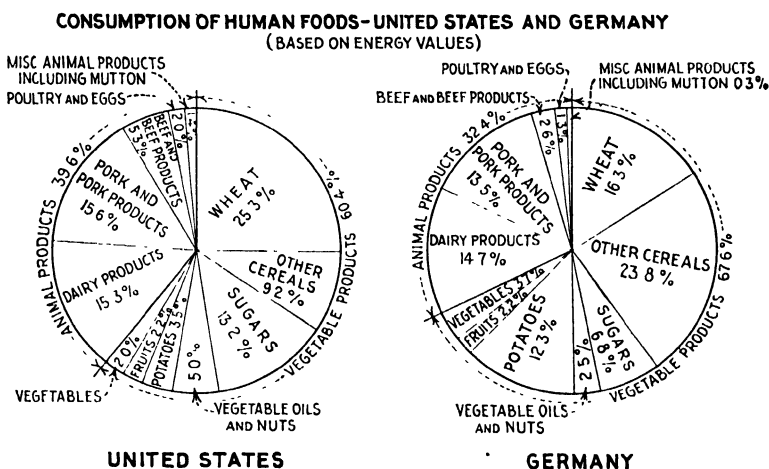


FIG. 14.

tion a comparison of the American and pre-war German diet are instructive (Fig. 14).¹ Already there are trends discernible in the direction of these adjustments.

Certainly in the United States, there appears no immediate danger of overpopulation, at least in the sense of the fears of the early writers on the subject. Our material means of life have increased at a fairly constant rate for several decades, and there is no reason to expect a serious slacking in that rate for some time to come. The rate of increase of population has decreased for many years, and the present rate of decrease is probably even more rapid than appears on the surface because of the age composition

¹ U. S. Department of Agriculture, Yearbook, 1923.

of the group. Moreover, our land resources are capable of supporting a vastly larger group without starvation with a proper modification of our food habits. The real population difficulty is not that we will starve, but that levels of consumption may need to be lowered because of a fall in the rate of increase of production. If we were all content to subsist on potatoes, and live in huts, there would be no danger of overpopulation for thousands of years. Our consumption habits must change, chiefly in a modification of the use of our rapidly diminishing mineral and timber resources, but the possibility of starvation is too remote to consider. The time, however, has come when each nation must decide upon the quality and quantity of people that they deem most desirable, and adopt measures to secure this sort of a population.

Problem

As population increases, the relative importance of certain talents or occupations change, and in consequence the powers of those groups to consume. What changes in the relative importance of occupations do you suspect will take place as our population becomes larger?

CHAPTER XVIII

NATIONAL PROBLEMS IN CONSUMPTION

The level of consumption of the people of a nation is important since this is a principal factor in their competition with other peoples. Sometimes this competition takes place directly within the nation itself, between classes composing the nation, or immigrants and the native stock, and sometimes the competition takes place indirectly in the efforts to sell goods in the same world markets.

1. The Most Effective Level of Consumption for a Nation.—Levels of consumption are frequently compared on the basis of their cost, or the quantity of goods included in them.¹ A high level in these terms means one which has a high cost, or includes a large quantity of goods, and a low level, one which has a low cost, or includes small quantities of goods. These concepts are useful when we are dealing with economic welfare, since we usually may associate a high level of consumption with large per capita welfare, and a low level of consumption with a low per capita welfare. They do not, however, constitute the best expressions of levels of consumption when considering them from the standpoint of the material progress of the nation. From the standpoint of material progress, that standard is most effective which produces the largest surplus, not total surplus, but surplus relative to the amount consumed. Thus a high level of consumption which produced a given surplus would be less efficient than a low level of consumption which produced a smaller surplus if the production relative to the consumption on the lower level were larger. This, of course, omits any

¹ Cf. CARVER, T. N., "Principles of Political Economy," Chaps. XXXIX and XLII.

consideration of well-being, but in the absence of evidence to the contrary we must assume that a relatively high well-being accompanies relative large material possessions.

The nation whose production exceeds its consumption progresses in an economic sense, while that whose consumption exceeds its production declines. This surplus will be the greatest in a given nation with a given population when all consume so that the ratio of their production to their consumption is the greatest. Production must be taken in the broadest sense. Many do not produce directly, but act as the advisors or inspirers of others, and in this way increase their production. Such people must be judged productive even though it may be difficult to isolate precisely their specific contribution. Similarly, we must judge a person by his entire life rather than by a single period of it. The consumption of a child, and of those who are receiving specialized training, usually exceeds their production, but may be more than justified by the subsequent large surplus which they produce. Moreover, we must, for this purpose, adopt a material and ethical view of production, and deem as production only those things which directly or indirectly result in material production.¹ Thus the services of the educator or physician might be deemed productive since they enable others to increase the material product of society, but the activities of the robber or purveyor of fake medicine could not be counted so.

This margin between the production and consumption of an individual can be increased in either one of two ways: his production may be increased with consumption remaining the same or increasing less rapidly, or his consumption may be decreased with his production remaining the same or decreasing less rapidly. The problem is to discover for each individual or class the level of consumption which yields the largest return. This level will differ with each person. It is wise economy to permit those with important work to perform to consume more than those who are

¹ Development of the opposite viewpoint may be found in H. J. DAVENPORT, "Economics of Enterprise," Chap. IX.

capable of only menial tasks. An important executive or professional man may very properly keep a car and several servants when these enable him to execute problems with better judgment or to make his skill or knowledge available to more persons. This would be a social waste, however, for a laborer, or for one whose productive contribution was small.

Much of the validity of this test of an efficient standard rests upon the assumption that these accumulated surpluses or capital will increase subsequent production. It is a general principle of economics that a relative increase of any one factor of production reacts to the benefit of all the other factors, and increases their productivity.¹ This will lead directly to a rising level of consumption. Each laborer is now able to produce more in the community because of the increase in capital than he would have been able to produce if the quantity of capital had been smaller. The increased quantities of capital, in consequence, mean a decrease in the cost of producing goods in terms of human efforts. This means that it is now possible to satisfy wants which were formerly relatively unimportant since they added little to men's ability to produce. But now, both because the productive cost of supplying these wants has decreased, and because the greater productivity of laborers made possible by capital accumulations has made each increase of production, due to the inclusion of a previously excluded good, larger than it was before, there will be a constantly rising level of consumption necessary in the fulfillment of an efficient level of consumption.

There is a constant battle waged among classes, nations, and races on the basis of their levels of consumption. Those with low levels appear to multiply faster, and crowd out those with the higher levels, by literally eating them out of house and home. In one portion of Texas, for example, the whites were crowded out by the lower-level blacks, and subsequently the negroes by the still lower-level Mexican peons. The real competing power of a

¹ Cf. PIGOU, A. C., "Economics of Welfare," 1st Ed., Part V, Chap. III.

level of consumption, however, depends not on whether it is high, but whether it is efficient. If people are proportionately more efficient in their production than they are in the amount of their consumption, then they can hold their own against the lower-level group indefinitely. It is not the low level of consumption that is invariably successful, but the efficient level, which may be either high or low. As population increases, unless it coincides with a change in the arts or with a great accumulation of capital, there will be a diminishing productivity per capita. If this decrease of productivity is proportional on all levels of consumption, then the competing power of those who show the greatest excess of production over consumption relative to their consumption will be increased, regardless of the actual level of their consumption. The final test of the competing power of a level of consumption lies neither in the absolute level of the consumption nor in the present excess of production relative to the level of consumption, but in the excess of production relative to consumption and that group must win whose proportion is the greatest. As population increases, and if productivity becomes lower, the groups with the present lowest ratios of excess will be successively crowded out.

Races with high levels of consumption sometimes raise barriers against the competition within their own countries of those with lower but more efficient levels of consumption. The latter with their more efficient living would shortly be able to buy out the farms and industries of the original inhabitants. Thus we have immigration restrictions in this country, and the actual exclusion of certain peoples. The problem is not, however, entirely solved by this exclusion, but is transferred to another field. Competition between nations proceeds in the markets of the world, and is just as real and bitter as competition between individuals; it proceeds more slowly but just as surely. The nation with the more efficient consumption must eventually drive the less efficient from the markets of the world. Wars and invasion may result when the pressure

becomes great enough. Superior natural resources will give a particular people an advantage for a time, but some of these resources must finally be exhausted, and with the exhaustion comes the severe handicap of a more costly level of consumption. There is, however, considerable point in excluding those with effective competing levels from entry into the particular country. If the population is kept small relative to the natural resources and capital of a country, then the per capita production will be high, and a high level of consumption may still remain an efficient one. It may be more efficient than that of the worker in the other country solely because the natural resources and capital that country provides is relatively small. Thus we prohibit the immigration of the Chinese to this country as their low level of consumption is relatively very efficient when they are able to work with the large amount of capital and natural resources which we have relative to China. As long, however, as the Chinaman working in his own country must compete with the American laborer working here, because of the scarcity of natural resources and capital, his production will be so low that his level of consumption will not be as efficient as that of the American laborer, and we need have no fear of his competition.

The most significant factor that will ultimately determine the efficient level of consumption will be the amount of land for which that level of consumption calls. As population increases, the area of land available for each person decreases. This amounts simply to an increase in the cost or level of consumption, and unless there is a change in the productivity of the person, the efficiency of his level of consumption has been lowered. Those who need small quantities of land to maintain their levels of consumption gain at the expense of those who require a large area of land to maintain their level of consumption.¹

¹ Cf. PATTEN, S. N., "Consumption of Wealth," 2nd Ed., Publications of the University of Pennsylvania, Series in Political Economy and Public Law, No. 4, pp. 52-59.

There must, in consequence, come a modification of the desires of the people towards those things that can be satisfied with a smaller amount of land. Each increase of population will force us to adjust our drinking, clothing, and eating so that we make less demand upon land. The laws of consumption are, in consequence, of great importance in studying the direction along which the pressure of population forces the development of mankind. Those people and races who demand rare sorts of food or articles of luxury that require large amounts of land must give way to those who can satisfy their wants with articles which nature supplies more abundantly. The demand for land which the appetites of the different classes in the nation require indicates in a general way the classes that must give way under pressure of population. Those who require twenty acres for their support are at a distinct disadvantage with those who need ten acres. The increase of population will surely decrease the relative efficiency of a level of consumption that requires much land.

In considering the consumption of a people in relation to their production, it is necessary to recognize two portions, that which is essential in maintaining their health and efficiency, and that which is not. We may designate the first as the level of life. An increase in the level of life implies an increase in self-respect and energy; a more careful judgment in expenditure, and an avoidance of food and activities which are unwholesome. We may designate the second as the level of comfort.¹ It includes those things which, while they add much to the enjoyment of life, do not add to, or may even detract from our productive powers. A rise in either the level of life or the level of comfort will increase the product of the workers, but at different times and in a different manner. An increase in the level of life will increase the productivity of the workers, in consequence, their wages, and the total product of society. The laborers themselves and others of society gain. An increase in the level of comfort, on

¹ Cf. MARSHALL, A, "Principles of Economics," 8th Ed, pp. 689-690.

the other hand, will raise the earnings of the laborers only through its effect upon their number. This cannot come immediately, but must come through the smaller size of the subsequent generation. This will increase the product per laborer, and his wage, but the decrease in numbers will more than offset the increased productivity and the total product of society will be smaller and other classes will lose. Thus a rising level of consumption of the workers may or may not increase the total product of society, and may or may not benefit other groups. Moreover, it does not necessarily follow that because a population is small, it will have an efficient level of consumption, but, simply, that the efficient level of consumption may be higher than if the population is large. When the level of consumption is close to the level of life it is efficient, and as the level is a comfort level it becomes more inefficient the higher the level of comfort.

It is sometimes argued that a high level of comfort is desirable since it keeps many employed in the production of these goods. It is thought that lavish expenditure by the rich is desirable since it makes employment and keeps money in circulation. For example, a great dinner causes employment for caterers, musicians, tailors and costumers, taxi drivers, and servants of various sorts. These would not have been employed in their capacities had it not been for the dinner. The fallacy lies in the idea that if the dollar were saved it would not be spent, and that, in consequence, these people would be unemployed. Money that is saved, however, is expended just as surely as money that is expended for consumption goods, the difference lies in the direction which that expenditure takes. If the money had not been spent, it would have been deposited in banks, and from there loaned to others. The principal borrowers are those who wish to use the loans for productive purposes, that is, to build or buy machines or property, or to invest in industry. The money circulates, and gives employment to labor, just as much when it is saved as when spent for consumption goods. It is true that the people who were

employed by the dinner would not have been employed in those capacities, but workers in other lines would have been, and if the demand for such dinners should fall off sufficiently these same people would turn to these other employments, and would be needed there. The difference between spending and saving is simply in the way in which labor is employed.

The real difference between saving and spending, as we have pointed out, lies in the ultimate effect upon the wealth of the country. When income is spent for goods that yield immediate gratification those goods cease to exist. When income is saved, it goes largely into productive equipment, which yields a product at some subsequent period. There is, in consequence, more for society to consume at this subsequent period. If we had two communities, one of which used its wealth for consumption as rapidly as it came into existence, while the other saved a considerable portion of its wealth, there would shortly appear a great difference between the two communities. The one in which saving took place would be more prosperous, and would have more to consume than the former.

When, however, the decision has been reached to spend rather than to save, there is no reason to suppose that harmless luxuries constitute less advantageous objects of expenditure from a public point of view, than other sorts of goods. The distinction arises chiefly in the difference between saving and spending. In fact, since, in buying luxuries rather than other goods, the rich are competing among themselves rather than with the poor, and since, for a great many of these objects, taxes form a principal part of the price, they are quite likely to be even better objects of expenditure from a social view point.

The consumption of the individual or a group may frequently be modified without loss of satisfaction for themselves in such a manner as to materially increase the satisfactions of the nation as a whole. In so far as expenditures are made for the purchase of things which raise the income of the poor by a given amount rather than the

income of the rich by a similar amount, we may assume that the aggregate of satisfactions has been increased. This follows from the proposition that, in general, the poor will derive a greater satisfaction from a given sum than the rich. Again, the aggregate of satisfaction and welfare will be increased whenever purchases are made without loss of satisfaction to the person expending the money, for articles produced under conditions of production which improve the quality of the people rather than lower their quality. Thus there might be a considerable gain if the tastes of society swing toward articles requiring beautiful and artistic craftsmanship rather than machine tending. Finally, our purchases may affect the prices which others must pay for similar goods. Some goods are produced under conditions where an increase in the quantity sold will result in lower production costs per unit so that they can be sold at a lower price. These we call decreasing cost goods. Other goods are produced under conditions such that an increase in the quantity sold will result in higher production costs per unit so that they can be sold only at higher prices. It is clear, then, that in so far as purchases can be directed towards goods produced under decreasing costs rather than goods produced under increasing costs without loss of satisfaction to the purchaser, that the aggregate of satisfactions must be increased, since the purchase of the good produced under decreasing costs enables others to obtain that good at a lower price, and the withdrawal of the purchase of the good produced under increasing cost also enables others to obtain that product at a lower price.

2. Modification of Consumption by Government Expenditure.—The state may affect the consumption of its people in several ways. It may, for example, provide them with certain services, or it may prohibit or regulate the consumption of certain articles, or it may modify consumption by affecting the relative prices of goods in the market through its system of taxation. There is a distinct tendency for the services which the modern state

provides its citizens to increase in number and quality. Public expenditures have been increasing for more than a hundred years. Many services previously poorly supplied now take large sums. Expenditures for education, police protection, sanitation, and public lighting have only recently come to demand large sums. This general tendency has been stated as a *law of increasing public expenditure* by Adolph Wagner as follows:

Comparisons between different countries and different periods show regularly among progressive nations an extension of public activities. This manifests itself extensively and intensively. The State and its subordinate political units continually undertake new functions, and they perform their duties, old and new, better and better. In this way, that is, through public agency, the needs of the population, especially their common needs, are satisfied to an increasing extent; and the public services for the satisfaction of needs continually improve in quality. The clear proof of this is given statistically in the increased demands made by the State and the subordinate political units.¹

The extent of the expenditures of various kinds in the United States before the war is given in Table LX. The major change since the war has been the great increase of expenses relating to war. In the estimated expenditures for 1924, military functions and fixed debt charges absorbed 67 per cent of the total. It has been estimated that the aggregate taxes collected by the national, state, and local governments absorbed 6.4 per cent of the national income in the fiscal year 1913–1914, 10.5 per cent in the year 1918–1919, 13.0 per cent in the year 1919–1920, and 14.3 per cent in the year 1920–1921.² It is not apparent, however, over a long period of time, that the taxes and payments to the state for services have increased more rapidly than the national income, or that the state is encroaching upon private enterprise.

¹ WAGNER, "Grundlegung der politischen Oekonomie," 3rd Ed., Vol. I, p. 893.

² National Industrial Conference Board "Taxation and National Income, p. 38.

TABLE LX.—PER CAPITA EXPENDITURES AND PAYMENTS OF THE NATIONAL GOVERNMENT, STATES, COUNTIES, AND INCORPORATED PLACES HAVING A POPULATION OF 2,500 AND OVER IN 1913¹

	Aggre- gate	National govern- ment	States	Coun- ties	Incor- porated places
Governmental cost payments	\$30 56	9 81	3 95	4 49	27 29
All general departments	19 15	6.17	3.27	3 24	14.59
General government	2 82	0 64	0 42	1 19	1 50
Protection to personal property	4 59	2 73	0 26	0.18	3.08
Conservation of health and sanitation	0 78	0 06	0 07	0 03	1 32
Highways	2 08	0.44	0 17	0 65	1 91
Charities, hospitals and corrections	3 51	1 88	0 90	0 44	0 72
Education	4 55	0 18	1 38	0 68	5 10
Schools	4 44	0 17	1 37	0 67	4 90
Libraries	0 11	0 01	0 01	²	0 20
Recreation	0 26	0 01	0 02	²	0 47
Miscellaneous	0 56	0 24	0 05	0 07	0 48
Expenses of public-service enterprises	3 42	2 72	0 04	²	1 41
Interest	1 95	0 26	0 15	0 20	2 90
Outlays	6 04	0 66	0 50	1 05	8 40

¹ ELV, "Outlines of Economics," p. 660.

² Less than one-half of 1 per cent

3. Sumptuary Laws.—Regulation of consumption by means of legal enactments has met with little success, and in modern times there are few attempts at such direct regulation. Such legal enactments or sumptuary laws have generally been directed along two lines, the maintenance of class status by prohibiting the use of certain articles by others than those of a particular class, and the prevention of the introduction of new sorts of consumption. For example, in the latter middle ages, knights were permitted to wear gold, but esquires only silver; the former damask, and the latter satin or taffeta.¹ The Scottish parliament in 1477 legislated that no merchant or his wife should wear clothes of silk, or costly scarlet gowns.

¹ ROSCHER, "Political Economy," Book IV, Chap. II, Sec. 234, Note 3.

Laborers and husbandmen and their wives were limited to garments of cloth of their own make, or of a value not in excess of eleven pence per clue.¹ During the nineteenth century Japan tried similar sumptuary legislation, and found it impossible of operation. Efforts were made in the sixteenth century to prevent the introduction of brandy, in the seventeenth, of tobacco, and in the eighteenth, of coffee. Governments shortly discovered the fruitlessness of their efforts toward such prohibitions. For example, a Turkish law of 1610 provided that all smokers should have their pipes broken against their noses. A Russian law of 1634 prohibited smoking under penalty of death. Similarly the use of coffee was prohibited in Turkey in 1633 under pain of death. As late as 1780 there was a Hanoverian prohibition of coffee trades in the rural districts.² In the United States, these regulations have been restricted to the prohibition of only a few things generally acknowledged harmful. Thus we have laws limiting the use of narcotics and liquor to medical purposes, but even in these cases there are flagrant violations.

4. The Modification of Consumption by Taxation.—The government necessarily modifies consumption through its system of taxation. This may be because the tax falls unequally upon the different members of the community and lowers some incomes more than others, or because the relative prices of things are changed. It is, in consequence, pertinent to examine the circumstances under which these taxes may modify consumption in desirable ways, and when in undesirable manners.

The taxes levied by the government may take different proportions of income from different people. Property is classified for purposes of taxation, and it is common for certain classes to be taxed at a higher rate than others. Even with a general tax, certain property may escape assessment and taxation. Thus it is argued that the general property tax bears most heavily on the farmer.

¹ ROGERS, C., "Social Life in Scotland," Vol. I, p. 83.

² ROSCHER, "Political Economy," Book IV, Chap. II, Sec. 235, Note 1.

Outside of the rural districts the great mass of personal property consists of intangibles which as a rule escape taxation almost entirely. In the rural districts, on the other hand, the great mass of personal property consists of visible objects which cannot escape assessment. Another difference arises in the exemption of certain property from the tax. The income tax is not imposed on very small incomes, nor the inheritance tax on small estates. In most jurisdictions, a small amount of personal property is exempted from the personal property tax. Taxes may also be progressive; that is, the rate may increase as the base upon which the tax is imposed increases in amount. Our income tax is an example. As the amount of income grows larger, the rate of taxation increases. Most commodity taxes, on the contrary, are regressive; that is, they bear more heavily on small than on large incomes, since the proportion of large incomes which is spent is smaller than that of small incomes.

The argument for progression in taxation rests upon the idea that justice in taxation means an equal sacrifice by all members of the community. This would require a larger amount of the income of the rich to be absorbed by taxes than of the income of the poor, since an equal percentage deduction from the income of the poor and the rich means a greater sacrifice to the poor. The difficulty lies in the fact that we cannot set the precise rate of decrease in the significance of the income.¹ In the United States progression has been applied to both income and inheritance taxes.

The effect of taxation does not necessarily remain on those who originally pay the tax, but may be transferred to others. The process of transfer of the tax is known as the *shifting* of the tax, while the settlement of the burden on the ultimate taxpayer is called the *incidence* of the

¹ Irving Fisher has outlined a method for attempting this in his article "A Statistical Method for Measuring Marginal Utility and Testing the Justice of a Progressive Income Tax," in "Economic Essays Contributed in Honor of John Bates Clark."

tax. The tax may be shifted either forward or backward. Thus, if a per unit tax is placed upon the production of a particular commodity, the producer will be able to pass most of the tax on to the consumer in the form of a higher price. But the idea that all taxes which are imposed on business are passed on to the consumer is erroneous. Under certain circumstances, the producer may be forced to pay all or a very great proportion of his taxes out of his profit.

The circumstances under which a tax placed on the production of an article can be shifted to the consumers in the form of a higher price are: (1) when it leads to a withdrawal of capital and labor from that field with a consequent reduction in the quantity of the good produced, and (2) when the producers reduce their output and sell a smaller quantity at a higher price. The former process is the more usual, and the producers may finally be able to shift the entire tax to the consumers. The original incidence of the tax may remain on the producers for a considerable period of time because they are not able to withdraw quickly their capital from the business. All capital, however, wears out in the long run, and when the wearing-out process has begun to reduce the amount of capital, the shifting of the tax will begin. Producers are likely to adopt the second alternative when the tax is heavy, or the demand inelastic, or the good is the product of a monopoly. When this method is adopted, the change will usually be immediate.

There are a number of taxes in this country on particular consumable commodities. For example, we have taxes on beverages, tobacco products, automobiles, and so on. Generally speaking, mass goods are more convenient and economical objects of taxation from an administrative standpoint than goods purchased in small quantities. Experience shows that a large number of taxes of small amount are relatively far more costly and inconvenient to collect than a few taxes of large amount. Mass goods are purchased largely by the poorer classes, and in conse-

quence these taxes are likely as a whole to take a much larger portion of the income of the poor than of the rich. These taxes, when they are on necessities, are very undesirable, but, fortunately, in this country they fall, with few exceptions, on other articles. These taxes, while they are regressive in nature, are productive, inexpensive to administer, and certain; and their regressiveness is offset in the main by progressive features in the remainder of the tax system of which they form a part.

Import duties form another sort of commodity tax. When a duty is imposed upon an imported commodity, its price usually rises by the amount of the duty. This may not occur at once but can be expected in the long run. The duty, like a tax, increases the expense of getting the article to the market. This must then be added to the price charged the consumer if the foreign producer is to get his usual return. If he has other countries in which to sell his product, he will do so unless he can get as much by selling here. He may have a large plant devoted to the making of a particular product, or can sell only here, in which case he may bear the incidence. This will last, however, only until his plant wears out, and he can get into another industry. Then the incidence is largely upon the domestic consumer. The protection afforded by the duty may cause domestic producers to enter the field. They must charge higher prices than the foreigners did before the duty was imposed, since the fact that they did not enter the field before shows that they must have been at a disadvantage. The extra price then stands for a bonus to the domestic producers, which enables them to maintain themselves in a disadvantageous industry. We may assume that the consumer receives some return from the increased price he pays for imported articles through the use which the government makes of the revenues from the duties. But he gains nothing from the bonus which he pays for the increased production in this country. This is a loss to him. In order to prevent this situation, it would be

necessary to place a tax upon domestic production equal to the import duty.

Taxes which cannot be shifted are those placed on objects the supply of which will not be decreased because of the tax. Taxes on unexpected surpluses are of this type. Thus taxes on the additions to the value of people's property that are not foreseen by them and are not due in any degree to efforts made by them or to capital "invested" by them cannot be shifted. Certain people have argued, in consequence, that the principal source of revenue should be taxes on the so-called "unearned increment" of land values, since these would fall on the unexpected portions of the owners' incomes and, properly placed, would not change the uses of land nor the quantities of good produced.

Taxes on income approach the character of this group of taxes, and are particularly desirable forms of taxation from the standpoint of consumers in general. The supply of services will not be diminished unless the taxes are very high, and if the rates are low enough there will not be serious attempts at evasion. A uniform percentage tax on incomes of all sizes is not desirable since it would fall more heavily on the poor. In nearly all countries, in consequence, the tax is graduated progressively. The 1926 Revenue Act, for example, grants a personal exemption of \$1,500 to single persons, and \$3,500 for heads of families, with an additional exemption of \$400 for each child under 18. The normal tax rate is $1\frac{1}{2}$ per cent on the first \$4,000 of net taxable income, 3 per cent on the next \$4,000 and 5 per cent on amounts above \$8,000. There are surtaxes, or additional taxes, on the larger incomes.

Another tax which, in general, affects consumers only indirectly is the inheritance tax. The only objection to such a tax lies in its possible effect upon savings. These effects are probably small, however, and heavy death dues can probably be levied on large estates without causing any important check to saving.

Problem

Turn to some standard text in economics and determine the distinction between wealth and income.

1. Discuss the proposition of whether all consumption is equally destructive of wealth.

2. Is there a difference between expenditure and consumption? Are the possibilities of expenditure and consumption the same?

3. Distinguish carefully between the effects of saving and consumption. Show that it is possible that some savings take place that could better be utilized in consumption, dealing with the problem only on a national scale.

CHAPTER XIX

CONSUMERS' COOPERATION

The Consumers' Cooperative movement, as conceived by its more enthusiastic supporters, embraces an entire economic and political philosophy. They see in it a means of reorganizing our economic structure, and of eradicating many of the evils which are by-products of the present order. Chief of these would be the elimination of the profit motive as a stimulus to production, and with it the desire to misbrand and adulterate goods. There would also be an elimination of high-pressure advertising and sales efforts which, it is expected, would reduce marketing costs considerably. Many of the so-called "unearned increments" would be the common property of society, and would indirectly add to the incomes of all the members with a consequent reduction in the disparity of real incomes.

1. The Nature of Consumers' Cooperation.—Not all forms of joint effort are by consumers. There are, chiefly in agriculture, a great many cooperative endeavors carried on by producers. These usually take the form of a marketing organization or processing plant to which the producers bring their product and where the product is handled and sold by hired workers. Contrasted to this we have the so-called "cooperative workshops" which are owned by the workers in those establishments. There is a fundamental difference and conflict between consumers' cooperation and these other two types of cooperative movements. Consumers' cooperation is essentially a social movement; it embraces all society. The aim is to supply goods to its members at the most reasonable prices possible. The price relationship which is sought is essentially the relationship between the prices of the various commodities which the economist would speak of as a normal price

relationship. Producers' cooperation, and cooperative workshops are, however, essentially capitalistic movements. The cooperators form a group with an individual interest opposed to that of the other groups in society. The interest of the group is in a high price for its particular product relative to the prices of other products. The essential conflict between these forms of cooperation is not apparent when they are small relative to other forms of social direction, but would of necessity appear if they increased materially in their importance.

Consumers' cooperation is also to be contrasted in its aims and methods with socialism. Socialism, in general, is a political movement. It aims to overthrow the present order, and to substitute for it another in which the means of production are publicly owned and directed politically by governmental officials. There would be a centralization of authority, and control from above. Many socialists would propose that this change be made quickly and at once. Consumers' cooperation, on the contrary, is essentially an economic movement. It seeks to direct society not by means of a political vote, but by the economic interests of the consumer. The control is decentralized, resting in the consumers themselves, and passing upward. It hopes to achieve its end not at once or violently, but by a gradual expansion through the various fields that are devoted to ordinary profit-making business.

2. The Consumers' Cooperative Movement.—It is generally acknowledged that the cooperative movement as we know it today was inaugurated in 1844 by 28 flannel weavers of Rochdale, England. Each contributed £1 toward the capital of the organization, and with this slender capital, a cooperative store was established. Ten years later its membership had expanded to nearly 1,000, and its yearly business amounted to considerably over \$100,000. The consumer societies vary in their organization very little from country to country, and wherever the movement has spread, the principles laid down by the original Rochdale weavers have been followed. These

principles are as follows: (1) unrestricted membership with capital shares of low denomination which may be paid for in instalments, and which usually pay a conservative rate of interest; (2) limitation of the number of shares to be held by any one member; (3) a democratic control, each member entitled to one vote regardless of the number of shares which he holds; (4) the payment of dividends to the members, not on the basis of the stock held, but in proportion to the amount of business which the member has done with the organization. It may be added to the above features that quite generally it has been the policy of the more successful consumers' cooperatives to sell goods at the prevailing market prices, returning the difference to the members in the form of a dividend rather than to cut prices, and to make cash sales in order to avoid the loss attendant upon the extension of credit.

In many of the countries of Europe, for example in England, Germany, France, and Switzerland, the consumers' cooperative societies are among the largest producers and distributors of the necessities of life. The cooperative societies in Great Britain, for example, have a membership of nearly 5,000,000 families, or about one-third of the total population. Cooperation also embraces about one-third the population in France, Austria, Germany and Switzerland.¹ There are known to be over 2,000 consumers' cooperative societies in the United States, with a membership of around 700,000, with a business in 1925 of considerably in excess of \$300,000,000.² These organizations include many activities, such as cooperative retailing establishments, boarding houses, restaurants, housing corporations, and so on.

Strong cooperative wholesale societies are found in the larger European countries. The largest of these is the English Cooperative Wholesale Society. It was established in 1863 by 45 local societies. In 1923 it embraced

¹ WARBASSE, "Cooperative Democracy," Book V, Chap. II.

² "Cooperative Movement in the United States, 1925," United States Bureau of Labor Statistics, *Bull.* 437, p. 1.

1,209 societies. In 1873 the society expanded to include the manufacture of biscuits and sweets. In 1923 its productive operations included 116 factories and productive industries. An idea of the extent of these enterprises may be gained from the following list:

Butter and cheese factories, bacon factories, vinegar and yeast, tea blending and coffee roasting, cocoa and chocolate factory, biscuit and confectionery, preserve works, soap works, flour mills, provender and oil-cake mills, oil mills, tobacco factory, lard refineries, pickles, margarine works, printing, lithography and bookbinding works, rope and twine works, coal mines, woolen-weaving factories, hosiery factory, corset factories, woolen mills, cotton-weaving factories, clothing factories, boot and shoe factories, canneries, furniture and cabinet factories, brush and mat works, automobile works, iron works, motors and bicycles, cutlery factory, scales and weighing machines, saddlery and harness works, trunks and bags, picture framing, china and pottery works, saw mills, glass-bottle works, bucket and fender works, tin-plate works, paint and varnish works, drugs and chemicals factories.¹

Besides these factories, the society owns 33,000 acres of farm lands in England, 10,000 acres of wheat land in Canada, palm olive estates in West Africa, its own steamships and fishing fleet. Together with the Scottish Wholesale Society it owns 35,000 acres of tea plantations in Ceylon and India. The two societies are the largest importers of tea, grain, butter, sugar, and dried fruits in Great Britain. The wholesale society in addition operates a string of banks, its own fire insurance company, and a health insurance section for its members.

Consumers' cooperation in the United States is undeveloped when compared with the progressive European countries. This is due in a large measure to a lack of social or economic status which requires attention to small savings, and a lack of a class consciousness on the part of a large group. The movement is, as yet, too small to permit the establishment of wholesaling and producing activities which have been such a successful feature of European cooperation. The cooperative wholesaling movement began quite promisingly in 1920 but has been largely

¹ WARBASSE, *Ibid.*, pp. 390-391.

abandoned since. The savings without these additions have been too small to appeal to the average American. The movement is strongest among foreign groups which maintain their distinctness, and bring with them the habit of cooperation from the old country.

The Bureau of Labor Statistics has estimated the total business done by credit, workers' productive, and "other consumers" societies in the United States as well over \$300,000,000 in 1925. The estimated memberships and volume of business are given in Table LXI.

TABLE LXI.—ESTIMATED MEMBERSHIPS AND BUSINESS OF COOPERATIVE SOCIETIES, OTHER THAN AGRICULTURE, IN THE UNITED STATES IN 1925¹

Type of society	Estimated total membership	Estimated total business
Credit .	173,800	\$32,997,100 ²
Workers, productive	4,500	9,305,000
Consumers,		
Housing .	2,300	
Other	527,900	179,739,800
Total .	708,500	\$322,042,100

¹ *Ibid.*, Bull. 437, p. 9

² Loans granted during the year.

Assuming that the \$179,739,800 business of consumers' societies, other than housing, represents principally retail stores, the proportion of the retail business done by cooperatives in this country would be well under one-half of 1 per cent.

The most rapidly growing form of cooperation in this country is the cooperative credit society or credit union. These are intended primarily for the small borrower who needs a loan for consumptive purposes. Generally, any person of good character can join the credit union, \$1 or less admitting him to membership. Only a member may be a borrower, but once a member he may apply for whatever loan he needs. Practices as to the security for loans differ. Small loans are generally on "character," but larger loans frequently require indorsement by one or

more other members of the society. The greatest growth of these organizations has been in the last 5 years. In 1925 there were 284 known societies in the United States, located principally in Massachusetts and New York. Their total loans during the year were around \$32,000,000.

3. The Prospects of Consumers' Cooperation.—Consumers' cooperation contains many elements of strength, and may be expected to expand considerably in European countries, and to a lesser extent in this country. It is quite probable that it will even become relatively a much more important form of operation of economic activity than at present. There are, however, certain inherent weaknesses in consumers' cooperation that will prevent it from entirely dominating the economic system. Cooperatives now customarily accept the market level of prices, and price their goods accordingly, remitting to their members the savings in the form of dividends. If consumers' cooperation were the exclusive system, then these prices would not exist, and there would be the difficult problem of determining the proper production and the price of goods. Moreover, the cooperative is usually a follower rather than a leader in the development of new desires, and as long as there was no legal prohibition we would expect to find always a more or less wide band of business men developing and presenting new things. The consumers' cooperative also faces problems in its relations to its employees. As long as there is a definite rate of pay established by the competitive market, and the cooperative consumes principally things which are not produced by its members, the problem is not serious, but when the cooperative has absorbed the market, and its goods are made principally by its own members for sale to it alone, these problems become vital. There will be constantly a demand for better pay and working conditions advanced by the employees as a claim against the general profits of the organization. This has already occurred with some of the larger consumers' cooperatives. This is clearly a conflict of interests of a serious nature, and one

which will necessarily arise if the movement becomes widespread. Thus we may conclude that while consumers' cooperation has a wide field, this field is limited in extent, and the movement cannot be expected to expand sufficiently to completely dominate the economic order.

Problem

A principal advantage claimed for cooperation is that it would free us from the pressure of expert salesmanship.

Outline a discussion of the various means which the consumer might use, other than consumers' cooperation, in securing this protection.

CHAPTER XX

CRITIQUE OF CONSUMPTION

It is evident from the foregoing discussion that, at present, consumption is not carried on in the best possible manner. Much of it is foolish and wasteful, and some of it is actually harmful or degrading. Perfection is not to be expected, but great improvements can be made. Some of these errors are due to the nature of the economic order in which the consumer finds himself, some errors are due to the imitation of the consumption of others without proper allowance for the differences in the circumstances under which consumption takes place, and other errors are due simply to a lack of knowledge on the part of consumers, and to a lack of pride in efficient consumption.

The greatest general handicap which the economic order throws upon the consumer is that it places in conflict the interests of the producers and the consumers. Producers modify their conduct to the consumers' advantage only when such modification furthers their private ends. If it were not for the necessity of future sales, in most cases, the selling of goods would proceed on an absolutely unscrupulous basis. The consumer would be cheated, or sold shoddy goods wherever possible. Even the necessity of future sales does not completely protect him. He suffers a disadvantage because in many cases he does not know what he needs, and in consequence, is susceptible to suggestion by advertising and salesmanship, and also because, even though he may know what he needs, he is unable in a great many cases to tell whether the thing which he is purchasing will perform in the manner which he expects, or is led to expect, at the time of purchase. As long as the consumer is unable to judge the performance of commodities before their purchase he will be sold commo-

ties unsuited to his needs and of lower qualities than he believes himself to be buying.

The remedy for this situation, as has previously been pointed out, lies in the standardization of commodities and of commodity performance. These standards must be worked out from the viewpoint of the consumer, and must mean definite things regarding the services of the commodity for him. The problem is tremendously complex and difficult. Some progress is being made at present, but it is not sufficiently rapid. There is need for a large foundation or government department with ample funds for research, and fearless direction. The enmity of powerful producers must inevitably be incurred. The savings which a regime of complete standardization would accomplish are great. There would be a saving in the better ordering of consumption on the part of the individual consumers. There would also be a great saving in the effort expended upon advertising and selling. An advertiser would have greater difficulty in picking out some point irrelevant to the performance of his product, and in building a sales appeal upon it. Moreover, competition would proceed more nearly upon the merits and price of the article than it does at present. Those producers delivering the greatest quality of product at the lowest cost would gain distinct advantages, at the expense of those producers who are efficient advertisers and sellers rather than producers. All this should result in some reduction in the price of products to consumers.

The economic order also results in insufficient protection to the consumer in certain instances in the case of prices. These circumstances are sometimes the results of monopoly situations where producers charge more for their product than the price which the consumer would need to pay if there were competition in the industry. These conditions are most likely to arise in the case of the "public utilities." There is no general protection that can be provided for consumers in these cases, but each case must be dealt with separately. It does not follow that because prices are

higher than they would have been under competitive conditions, that the test of rates of return similar to competitive rates in other industries is entirely satisfactory. In many cases there is ample justification for departing from this rule, and subsidizing the industry to enable it to deliver its services at a lower rate.

The order places special handicaps upon particular groups of consumers by limiting their money incomes. This is not in itself a consumption problem but rather a general problem in welfare economics. Whether these persons are to be provided with larger incomes is a matter of political and ethical expediency. The cramping of consumption because of the small income causes much misery, and may even seriously restrict productive power. At least it is reasonable to demand that the order provide this income in all cases where its provision will enable workers to repay in greater production by their own voluntary efforts. The problem, however, is much broader than consumption economics, and involves such things as the means of lessening industrial fluctuations, provision for increasing the health and education of children, rehabilitation of the industrially unfit, and provision for aid in old age and sickness.

Another large group of errors in consumption arises from our imitation of the consumption of others. Fashions are the most striking example. Rapid changes in fashions are costly both from the standpoint of manufacture, and the distribution of the products. They are costly to consumers in that they lead to the discarding of a great many goods before those goods have furnished all the services which they might provide were it not for the change in fashion. These goods, moreover, derive their values in a particular manner, they are chiefly valuable because everyone cannot have them, and, when everyone does, they cease to be valuable for this very reason. Some progress may be made in this respect if the rich and powerful can be shown their social responsibility in consumption, and can be led to promote the consumption of articles

which, in themselves, possess intrinsic values rather than solely prestige values. Unfortunately, there is no very great probability that this can be accomplished. The greatest hope lies in the education of the lower strata in the senselessness of the consumption of many of the goods consumed for their prestige value, and in putting emphasis upon the desirability of individuality in consumption rather than being simply a member of the herd.

Consumption is also poorly carried on simply because of a lack of intelligent attention to the problem by consumers themselves.¹ There is great need for the development of a pride in efficient consumption. The business man takes a distinct pride in the conduct of his business, the sportsman in the excellence of his performance, and, in a similar manner, there is need of a pride in the efficiency of consumption. Before such a pride in consumption can be developed, objective tests of what constitutes effective consumption will need to be developed. These tests are largely technical matters. They will need to be developed by our various research agencies. Our colleges of home economics are making notable progress in this respect, but are so limited in funds and personnel that sufficient progress cannot be made without material assistance. Our schools and colleges need to place additional emphasis upon the problem; each student, for example, should receive specific instruction upon the problem of personal finance, tests by which the consumer can judge the quality of goods, the advantages of standardization, and so on.

The opportunities for wasteful expenditure increase rapidly as the income rises above the minimum of subsist-

¹ W. S. Jevons pointed out long ago ("Principles of Economics," p. 32) that a small change in wants and tastes might often lead to a considerable increase in economic welfare. In many cases, more is to be gained by adapting wants and tastes to our environment than in endeavoring to shape our environment to our tastes. Jevons gave the following striking illustration: "While the great Irish famine was at its worst, abundance of salmon and other fish could have been had for the trouble of catching; scarcely any of the starving peasantry would consent to touch it."

ence level. Our increasing power over productive resources and our rising level of income is complicating rather than simplifying the problem of efficient consumption. We must look forward to a loss of much of this gain in productive efficiency through poorly ordered consumption unless consumers, in general, can be educated to better modes of consumption, and stimulated to a pride in efficient consumption.

Problem

It has been proposed that "education of the consumer" should be made a larger part of the public-school curriculum. It is claimed that such material would make the instruction in arithmetic, geography, chemistry, etc., more interesting and more valuable.

State your position in the matter, and if favorable to the expansion of this instruction, the methods and materials in "consumers' education" which you would be the most inclined to favor.

INDEX

A

- Administration of income: The budget, 154; control of expenditures, 157; lack of objective tests, 153; records and accounts, 155.
Adulteration of products: 70.
Advertising: See demand manipulation; competitive, 134; expenditures in U. S., 133; food, 125.
Accounts, 155.
Andrews, B. R.: 165, 168.

B

- British Board of Trade: Cost of living study, 106, 108.
Budget: Nature of, 154; suggested, 160.
Business cycle: And employment, 41; general nature of, 12; and production, 45; stages, 43; recommendations for lessening intensity, 46.
Buying: See purchase.

C

- Census Bureau: 135.
Chapin, R. C.: 105.
Chase and Schlink: 73.
Choice of goods: See utility, price; present vs. future goods, 87.
Clothing: Expenditures reported in family expenditure studies, 111; tests of proper expenditure, 168.
Competition: Between levels of consumption, 232; failure to protect, 17; protection for the consumer, 12, 15, 255.
Consumers' cooperation: Nature of, 247; development of, 248; prospects, 252.
Consumption: Meaning, 2; changes forced by growth of population, 224; causes of backwardness, 6; criticism of, 254; cyclical changes, 128; importance of economy in, 1; increasing complexity of, 5; lack of objective tests of proper consumption, 153, 160; modification to increase welfare of others, 238; modification by government, 238; relation to the birthrate, 219; seasonal changes, 129; social aspects, 1; trends in, 127; variation between places, 122; variation between times, 123; ways of studying, 3.
Convenience goods: Meaning, 141; costs of retailing, 143, 145; store types, 142.
Cost: As a cause of change in consumption, 123; clothing for family, 168; food for family, 165; house construction, 167; index of food costs, 52; instalment purchases, 206; retailing, 141.

Cost of living: Meaning, 50; Bureau of Labor Statistics index, 51; changes in prices of budget groups, 54; comparative fluctuations of high and low income groups, 55; measuring, 50; National Industrial Conference Board, 53.

Cycle: See business cycle: consumption, 128; fashion, 120, 122; prices, 41.

D

Davies, David: 102.

Demand: See elasticity of demand; meaning, 88; competing, 124; complementary, 126.

Demand manipulation: Advantages of, 134, 137; buying motives, 138; disadvantages of, 136; effectiveness of, 132, 137; expenditures for, 133.

Diminishing returns: 220.

Diminishing utility: 82.

Douglas, Paul: 57.

E

Eden, Sir Frederick Morton: 103.

Edison, Thomas: 64.

Economics: Definition, 3.

Economics of Consumption. Meaning, 2; individual problems of, 5; social problems, 4.

Economic order: Nature of, 12; criticism of operation, 14; criticism of philosophy, 17; efficiency in administration of consumption, 18; forms of guidance, 16; particular tasks of, 11.

Elasticity of demand: Meaning, 90; certain commodities, 100; dependence on diminishing utility, 92; methods of determination, 94.

Employment: During business cycle, 44.

Engel, Ernst: 103; laws of consumption, 104.

Exploitation of consumer: Chapter VI.

F

Family expenditures: Actual expenditures, Bureau of Labor Statistics Study, 1918-1919, 107; changes in quality with income, 110; percentage distribution, Bureau of Labor Statistics, 1918-1919, 106; British Board of Trade, 108; Chinese families, 108; high incomes, 109; rural communities, 113; savings and deficits, 112; size of family, 112; used to determine demand curves, 95; used to estimate sales, 114.

Fashions: 119, 256

Federal Committee on Unemployment: 46.

Federal Trade Commission: 66; 71.

Food: Adjustment of quality to income, 110; Bureau of Labor Statistics index of cost, 52; buying superstitions, 207; changes because of population, 224; consumption by Minnesota farm families, 123; meat consumption by sections, 226; primary and secondary, 226; relations between consumption of, 125; tests of proper expenditure, 163, 201.

I

- Income: Meanings, 21; causes of inequality, 28; changes in significance with size, 25; distribution of, 22; errors in comparison of money incomes, 26; growth in U. S., 28; relation to consumption, 23; results of inequalities, 29, 256.
- Index number: Meaning, 35; construction of, 36; cost of living, 51, 53; production, 223; wholesale prices in U. S., 39.
- Instalment purchase: Amount, 206; costs, 206; economic justification, 86, 206.
- Insurance: Amount to be carried, 182; choice of contract, 180; costs, 180; economic basis, 174; guaranteed values, 178; payment of proceeds, 179; types of companies, 177; types of contracts, 175.
- Investment: Building and loan association, 187; characteristics of ideal, 189; general plan, 173; methods of buying, 193; securing safety, 190; types, 192.

L

- Lavish expenditure argument: 236.
- Law of least social cost: 225.
- LePlay, Frederic: 103.
- Level of Consumption: Meaning, 116; competition between, 232; efficient, 230; high and low, 230; level of comfort, 235; level of life, 235.

M

- Monopoly: 62; control, 64.

N

- National Industrial Conference Board: Index of cost of living, 53.

O

- Ogburn, W. F.: 109, 112.
- Operating expenses: Tests of proper expenditure, 169.

P

- Petty, Sir William: 102.
- Pigou, A. C.: 32.
- Plummer, W. C.: 207.
- Population: Changing consumption, 224; differential birth rate, 217; factors of the problem, 213; growth, 214; historical birth rate, 216; increase of production, 220.
- Price: Cash and instalment, 206; change of budget groups, 51; difference between stores, 197; difference between seasons, 200; effect on choice of goods, 82; government establishment, 68; importance of change of single commodity, 93; regulator of consumption and production, 13; resale price maintenance, 203.

- Price level: Meaning of term, 35; significance of changes, 41; types of movements, 39.
- Problem: 7, 19, 33, 48, 60, 75, 89, 101, 115, 131, 140, 150, 159, 172, 195, 209, 229, 246, 253, 258.
- Production: Diminishing returns, 220; index of in U. S., 223; technical advances compared with consumption, 5.
- Protection of consumer: Buying agencies, 72; competition, 15; direct control of monopolies, 67; Federal Trade Commission, 66, 71; pure food laws, 70.
- Public expenditures: 239.
- Purchase: Amount by women, 196; buying superstitions, 207; home, 166, 188; quantity, 202; securities, 193; when to buy, 200; where to buy, 197
- Purchasing power: Consumer, 56; consumers' dollar, 56.
- Purchasing habits: Chapter XII.

Q

- Quantity theory of money: 40.

R

- Real income: Meaning, 23; measurement, 57; variation of employed workers, 60.
- Records and accounts: 155.
- Resale price maintenance: 203.
- Retailing: Costs, 143; reduction of costs, 147; types of goods, 141.
- Richards, E. H.: Ideal budget, 161.
- Rowntree: 58.

S

- Sales: Costs, 134; effort, see demand manipulation; estimated from expenditure studies, 114; increasing expenditure of effort, 146; seasonal fluctuation, 129.
- Savings: See investment; banks, 185; on different income levels, 112; rates of accumulation, 183; vs. spending, 236.
- Seasonal changes: Consumption, 129.
- Sherman and Gillet: 165.
- Shelter: Purchase of a home, 166, 188; tests of proper expenditure, 166.
- Shopping goods: Costs of retailing, 144; store types, 142.
- Specialty goods: Costs of retailing, 144; store, types, 143.
- Starch, O: 94.
- Standard of living: Meaning, 116; sources, 118.
- Standardization: Need, 72, 255; savings from, 74.
- Sumptuary laws: 240.

T

- Taxation: 241.
- Tests of proper expenditure: Clothing, 168; food, 163, 201; insurance, 182; operating expenses, 169; shelter, 166

Trend: Consumption per capita, 127; prices, 40; population in U. S. 217; production in U. S., 223; real incomes, 59.

U

United States Bureau of Labor Statistics: Index of food costs, 52; index of cost of living, 51; nationwide studies of cost of living, 105.

United States Treasury: Thrift budgets, 161.

Utility: Meaning, 80; and demand, 92; effect on choice of goods, 83; objections to analysis, 81.

V

Vaile, R. S.: 135, 136, 139.

W

Wages: In business cycle, 44; trend, 59.

Wagner, A.: 239.

Wieser: 89.

